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Address

SCHOLARSHIP IN MEDICINE.*

BY THEOBALD SMITH, M.D., LL.D., BOSTON.

WE have come together this afternoon at the close of the day's work to show our appreciation for scholarship and renew our allegiance to the ideals for which it stands. The John Harvard Fellowship represents a kind of honorary degree of limited duration. We assume that the reasons for conferring this distinction will endure throughout the life of the recipient. In other words, we believe that the John Harvard Fellows are to become, in due time, ripe scholars.

Although no two of us may agree upon all the attributes of the genuine scholar of the present day, yet all of us, I am certain, look upon him as devoted to the intellectual life. He does not need to be a hustler, or organizer, or contractor of intellectual labor. The rule of business, not to do anything that some one else can be delegated to do, is not a safe maxim for him. His work, like that of the artist, bears the stamp of his personality. It becomes vitalized and it grows in his hands. It can never be too good for improvement.

The true scholar is probably not aware that he is exercising any leadership, for he is not a conscious leader. He is not the self-constituted head of a so-called school, for that suggests a too close adhesion to unproved doctrines, and is not infrequently exploited for personal and national aggrandizement. He is content with placing his work on record and leaving it to its fate. The true scholar is not a partisan or advocate because the two or more sides presented by every question for due consideration are quickly detected by his periscopic vision, and he may see little to choose between them. He may at times become partisan to restore an upset equilibrium between contesting sides so that the actual facts may come into better view.

A mere display of absorbed knowledge does not make a scholar. He is not a passive creature. He is continually active in remaking old and creating new knowledge. There is a dynamic element in his make-up. Inactive erudition, often the badge of what has been called culture, is thrown off by him, as ballast is from a rising airship. Too much emphasis has been placed by educators upon the statement so often made, that a university should not teach anything that is useful, for it is apt to be misunderstood. The university teaches things not because they are not useful, but because like Emerson's weeds, their utility has not yet been discovered. The modern scholar, the product of the University, I would then define as one whose motto is the promotion of human welfare. He who in a purely scientific spirit and with the tools of pure science goes forth to struggle for the betterment of his fellowmen, is facing towards true scholarship. This definition will include the scientific worker in medicine. He has been brought into the company of scholars, and he is there to stay.

The young striving student of today may be somewhat discouraged at the seeming indifference and even disdain, manifested by many of his colleagues towards intellectual work. I ven-

* Address to the Students of the Harvard Medical School on the Occasion of the Presentation of the John Harvard Fellowships, Dec. 2, 1914.

ture to suggest several causes at work. The doors of our higher educational institutions are thrown open too wide and the competition between the intellectually fit and unfit has not been severe enough. Our indifferent and unfit students are like square pegs in round holes. They belong elsewhere. Access to educational privileges of the highest order is a very valuable consideration. It is being bestowed without insisting on a due return to society, which largely pays the bills. This cannot but degrade the privilege sooner or later. Another reason may be that human society has been surfeited with the achievements of the mind. We have been living in an age of wonders, due to patient research. Why should not the average man's appreciation become blunted for the time being? The worship of physical force, which has eclipsed scholarly tastes and which breaks forth with equal energy on the field of sport and the field of battle, may be due to the very creatures of intellectual labor, the huge machines of industry which replace the physical labor of giants.

The quiet, unobtrusive character of the thought which must precede all actual achievement conceals the real motive force behind the world's development. It is almost never the scholar who presses the button in order to let the accumulated energy which his researches have brought together, burst forth and perform their marvellous feats before spell-bound multitudes. He and his kind remain in the background and they usually prefer to remain there.

Bagehot, the English economist, quotes Pascal as saying that most of the evils of life arose from "man's being unable to sit still in a room," and he himself deserves quoting on this matter. "If it had not been for quiet people who sat still and studied the sections of the cone, if other quiet people had not sat still and studied the theory of infinitesimals, or other quiet people had not sat still and worked out the doctrine of chances, the most 'dreamy moonshine,' as the purely practical mind would consider, of all human pursuits; if 'idle star-gazers' had not watched long and carefully the motions of the heavenly bodies, our modern astronomy would have been impossible, and without our astronomy, our ships, our colonies, our seamen, could not have existed." To sit still in a room, to study, and to think, are the necessary antecedents of the scholar. No wonder that scholarship is distasteful to many who are reaching for its fruits. It is an acquired habit, developed by and necessary to civilization. It is the cement that holds together the social structure. Without it society, which is now completely dependent on material welfare, would fall to pieces.

These and other reasons might be given for the not enviable position of intellectual work and the gross misconception of its true value among the youth of our country today. It was probably always so and will continue to be so.

Perhaps there is one function of the scholar which should be cherished above all others. It is to discover and tell the truth. In spite of our many and increasing agencies for disseminating information, it seems just as difficult as ever, to get at the truth about any given subject. It is not always palatable and has occasioned great disturbances. Many scholars have been compelled to fight and suffer for what they firmly believed to be the truth. Even today the scholar's truth is not always acceptable. He may suffer for revealing it, although in no such spectacular ways as history reports to us. We are just as averse to accepting new truths that do not fit our environment as were the people in earlier centuries.

The young scholar's difficulties are not, as a rule, with inquisitions and adverse criticism, either by his co-workers or the public at large. His chief difficulty is to get a hearing. In the first flush of his discovery of a fact he considers production identical with distribution. But he soon begins to wonder why his new fact travels so slowly. In due time he begins to realize that his discovery, his treatise, is having a struggle, all of its own, to survive among the mass that issues from the laboratory and the clinic. The best may be temporarily eclipsed and this fact should give courage when the first fruits have failed to reach the market. He may console himself with the fate of Mendel's discovery, which lay fallow for nearly fifty years. As time goes on he may find that his productions are not properly valued, some are overestimated, others underestimated, still others wholly disregarded. He should not be disappointed, however, but bear in mind that his work will eventually find its proper level. Its true specific gravity will sooner or later decide its fate.

The scholar's rewards will always be small. The distinguished men who have gone before have not been in the habit of thinking of themselves, and this habit should not be encouraged. In the future ideal state of society when we will be doing our tasks instinctively, when we will say with Luther "I can do nought else, God help me," we shall not be thinking much of ourselves.

But let us return to the John Harvard Fellow in Medicine and speculate a little about his future work. Is it expected of him that he go out of his way and become distinguished for exploits far away from the bedside and the laboratory? Shall he become a prominent literary figure, a historian, or an authority in a non-related science? Undoubtedly, success in these fields will earn for him the name of scholar, but he would not necessarily be a medical scholar. Some have attained the mastery in two distinct subjects, but as a rule one languishes. Today medicine is so inclusive that few may venture into other fields without forfeiting their allegiance to it. I would, therefore, define my ideal of the scholar in medicine as one who makes medical science or

biology, which includes medicine, the foundation of all his undertakings.

I take it for granted at the outset that the John Harvard Fellow is going to do some thing well; that he is going to fit himself to be a part of the great engine of medicine which is doing so much work today for human welfare. This is only a fundamental demand upon all of us to find our place in human society and not to become unadaptable fragments, increasing by so much the already formidable human scrap heap. In our profession, to use a well-known quotation, "The knowledge which a man can use is the only real knowledge, the only knowledge which has life and growth in it and converts itself into practical power. The rest hangs like dust about the brain or dries like raindrops off the stones."

But the scholar in medicine must be more than fundamentally serviceable as a part of a great machine. He must be in touch with all its parts, His horizon must encircle all the activities of medical science. He must be more than aware of the existence of other specialties than his own, and bring to his colleagues sympathy and a strong desire to assist and to accept assistance. The more snugly adjusted and useful he becomes in his own specialty, the more cognizant he must become of the essential importance of other specialties. He must make use of this circumspect knowledge and become constructive. Without master minds, medical specialties are but *disjecta membra,* and medicine a chaos.

After these necessary preliminaries have been satisfied, the real task of the scholar in medicine begins, for the test of scholarly work is that its influence radiate beyond the confines of the special field of his immediate life-work, that it penetrate outward and into human socnety, that it contribute something to the spiritual and social betterment of his fellow men. More than once have I heard it said by men in private and in public, that their hopes for human society were centred in the vital disclosures of biological and medical research. Each scholar must try to find this major problem for himself, and in the choice and the solution his rank will reveal itself. It must be interpretative, illuminative, and not merely executive work. It must give us theories, creeds, and ideals for human behavior and activities. It must build biological facts and theories out over the depths of human superstition, ignorance, and prejudices, so that we may find the place for the next pier on which to rest human activities that aim toward a complete bridging of this chasm. This I interpret to be the true meaning of ripe scholarship.

Is medicine, which I use here as a term inclusive of all biological research, too narrow to carry on this work?

It is now over half a century since Herbert Spencer made an attempt to build up sociology on biological principles. Economists and sociologists have regarded the result as disappointing. I am inclined to suggest to the scholars in medicine of the immediate future. Why not take up Herbert Spencer's work? We need today more than ever, some constructive, generally acceptable theory of social organization and government, of the relation of the individual to the whole; of the relative meaning of environment and heredity, of the significance of nations as great groups of units to one another. Have not these problems been solved for us, not once, but many times in the organization of man and the lower animals? The student of medicine is well equipped, for he is studying one of the greatest achievements of coöperative activity. Is there any state, any commonwealth, which holds within itself such profound information on fundamental principles of organization and administration as does the commonwealth of cells, called the human body? Is there any that has been studied so profoundly? The many totally distinct, but inter-communicating groups of units, the intricate mechanism of adjustment between near and distant parts, the checks and counterchecks that maintain due equilibrium of function and repress undue individualistic growth, the economy of effort, the remarkable utilization of energy and many other phenomena of government are being disclosed. May not the scholar in medicine help in giving us as units of the social organism a due appreciation of the identity of the problems involved in both biological and social evolution?

It is one of his special tasks to show us the significance of the great practical work our profession is doing in preventing disease and saving life. He must show us both sides of this great work,—not only its humanitarian aspect, but also its one-sidedness, and teach us what is needed to supplement it so that it may be of real and lasting value. Nothing should escape his analysis and criticism of what is going on in the medical world, so that medicine may continually adjust and readjust its own work to changing social conditions. May he not as a student of a subject which is rapidly learning to replace the treatment of symptoms for a study of the underlying causes or necessary conditions, give us without fear or favor the sequences leading to great human catastrophes or diseases of the social organism like the one we are now passing through?

I am led to this suggestion of a more intimate relation between biological and social sciences because great discoveries which give a new direction to currents of thought and research are not, as a rule, gained by the accumulation of vast quantities of figures and statistics. These are apt to stifle and asphyxiate and they usually follow rather than precede discovery. The great discoveries are due to the eruption of genius into a closely related field, and the transfer of the precious knowledge there found to his own domain. It is not so very long ago when medicine paid but little attention and less respect to the unusually rich field of animal life as a source of information. Today, every department of medicine fills its available working spaces with ani-

mals which are the subject of profound study. The results have revolutionized human medicine within a generation.

I have a firm conviction that the laws governing life are the same whether applied to ourselves as great biological organizations or our still greater social organism. My only fear is that we do not yet know enough of these laws to become trusted advisers in social evolution and regeneration. The task is, therefore, great enough to occupy many a John Harvard Fellow of the future, if he be inclined to assume it. With it before him, he would not be tempted to live a life of double dilentanteism, but a single purposeful existence, because his two-fold task would be really one.

Original Articles.

A STUDY OF NORMAL-LOOKING BRAINS IN PSYCHOPATHIC SUBJECTS.

THIRD NOTE (BOSTON STATE HOSPITAL MATERIAL).*

BY E. E. SOUTHARD, M.D., BOSTON,

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AND

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FOLLOWING is a third fragment of the study now in progress of the brain side of the so-called functional psychoses. Functional psychoses ought to be such that the brains would show nothing that should not be there, nothing not quite "physiological," nothing not essentially reversible and capable of return to the *status quo.* In order to study functional psychoses, we, strictly speaking, need to find cases without intrinsic brain changes. In the midst of the host of intrinsic and extrinsic changes which a majority of brains in psychopathic subjects shows, it has proved difficult to secure an irreproachable functional series. The more exact and finical the brain examination, the harder is it to secure "normal-looking" brains, although the "changes" and "anomalies" found may have had nothing to do with the particular psychopathy of the given case.

* Being Contributions of the State Board of Insanity, Number 35 (1915.1). The communication was read in abstract at the meeting of the Norfolk District Society in April, 1914. (*Bibliographical Note.*—The previous contribution was by Dr. A. W. Stearns (1914.14), entitled "Out-Patient Work in Massachusetts State Hospitals for the Insane," BOSTON MED. AND SURG. JOUR., Vol. clxxi, November 5, 1914.)

The percentages of normal-looking brains in the series so far studied are as follows and may be considered as roughly true in consideration of the anatomical criteria prevalent in the different laboratories.

Worcester[1]	249	741
Taunton[2]	70	450
Danvers[3]	235	1000
Westborough[4]	73	500
	627	2691

To these percentages may be added that of the Monson State Hospital (for epileptics).

Monson[5]	76	205

We wish to communicate the results of an examination of 153 brains at the Boston State Hospital, in which there was, if you please, an intentional bias—a bias towards the Danvers standards of counting all suspicious findings among "abormalities." We need not repeat that we do not suppose that all the abnormalities found in the majority of this or any other series are directly correlatable with the psychopathic status of the subjects which carried the brains. What we are investigating is the normal-looking residuum.

Among these 153 were found 20 brains of a normal appearance, *i.e.* brains showing no destructive lesions, atrophic, cystic, or otherwise, and no sclerosis (in the sense of tissue induration or gliosis, regarded as of pathological nature). Some cases of basal or other arteriosclerosis and some of chronic meningeal change were counted as normal-looking, because upon careful search no sign of *substantial* brain change could be found.

Adhering in general to Kraepelinian lines in diagnosis, we find these 20 distributed as follows:—

Endogenous deteriorations (dementia precox)	2*	(xix, xx)
Manic-depressive group (3 involution cases included)	6	(xiii-xviii)
Senile and allied organic psychoses	4	(vii-x)
General paresis	1	(i)
Symptomatic psychoses	2†	(xi, xii)
Epileptic psychosis	1	(v)
Alcoholic psychoses	2	(iii, iv)
Central neuritis	1	(ii)
Syringomyelia	1	(vi)
	20	

Dementia precox forms (10 cases) almost 7% of the *total* B. S. H. series (153 cases); it forms 10% of the *normal-looking* series. One brain in five dementia precox brains is normal-looking.

Manic-depressive psychoses (involutional cases included) form (12 cases) about 8% of the *total* series; they form 30% of the *normal-looking* series.

Senile psychoses (with some allied forms) form about 29% of the total series; they form 20% of the normal-looking series.

* Possibly 3, owing to the possible inclusion of xii.
† Possibly 1, if xii be transferred to dementia precox.

In order to secure, if possible, a *microscopically* normal set of cases—cases not merely normal-looking in the gross, but normal-looking with the microscope—some orienting studies have been made with the microscope. These studies have permitted already the solution of some problems.

I. *Normal-looking brain in general paresis (five months' duration of symptoms).* Microscopically characteristic (plasma-cells about cortical vessels, cell-losses, gliosis) in various areas. Summary follows (details, clinical and structural to be presented in another "note" in this series).

B. S. H. 10,891. Path. (1912.55). Male. Age at onset and death, 53.
Duration of mental disease, 4 months, 27 days.
Mental disease, *continuous.*
Diagnosis. Never in doubt (Psychopathic Hospital, Boston State Hospital).
Terminal Illness. Bronchopneumonia.
Trunk — Chronic Changes. Trichina spiralis, pleuritis, pericarditis.
Trunk — Acute Changes. Hemorrhage in mesentery, bronchopenumonia, bronchial lymph nodes.
Body length—172 cm. *Brain weight*—1270 grams (Tigges' formula—1376 grams).
Lymph Nodes. Not notable.
Ductless Glands: Pituitary, edematous; adrenals, one diffusely red; testes, do not thread well.

II. *Normal-looking brain in central neuritis (six weeks' duration of symptoms).* Microscopically characteristic (numerous axonal reactions in various areas) but perhaps not a pure case (since the nerve-cell changes were not all of the axonal type and indeed some seemed to show an admixture of cell-lesions). Southard and Hodskins,[6] as well as Gay and Southard,[7] had offered some evidence to show an association between the clinical entity called "central neuritis" and softness of brain. Gay and Southard went so far as to suggest that bacillus coli communis infections of blood or cerebrospinal fluid might be at the basis of the soft brain. Canavan and Southard,[8] in a paper now in press, found in another series that bacillus coli communis failed to be associated with soft brain, but they found other bacteria capable of splitting laboratory media or of abstracting water from such media.

The present case, as the protocol would show, did *not* exhibit a soft brain; but the brain was described as "tense"-feeling and as entirely filling the dura mater, being especially prominent in the central region (brain weight 1350 gms.). The frontal portion of the pia mater was slightly hemorrhagic, and all the spinal root ganglia presented a curious and unusual appearance of hemorrhage.

Culture from the cerebrospinal fluid yielded bacterium capsulatum (capsule bacillus of Pfeiffer), an organism of the aerogenes group. The blood was sterile. Culture from bronchial lymph node yielded micrococcus aureus and micrococcus roseus.

The total course of symptoms in this patient (44 years of age) was 6 weeks. There is certainly a fair question of the diagnosis. Perhaps the root-ganglion hemorrhages acted to produce reflexly the characteristic movements which are more usually found in "central neuritis."

The histological examination of the hemorrhagic root-ganglia shows hemorrhages in spaces of the dura mater adjacent to the ganglia and small hemorrhages in the peridural fatty tissue. There are no evidences of acute inflammation in the dura mater or fatty tissue. Minute vessels within the proximal portion of the dorsal roots show endothelial nuclei of vesicular and slightly swollen appearance, with at one point a moderate number of mononuclear cells of a vesicular appearance in the adventitia. There are no good examples of lymphocytes in the tissue.

If the clinical phenomena are to be at all related to these peripheral changes, it would seem that they must be largely due to mechanical pressure changes, unless we are to interpret the very slight endothelial changes in the small vessels as toxic.

The Marchi sections show fat in cells within the hemorrhage, but do not show evidences of fat in the nerve fibers.

This case evidently deserves more particular study. For completeness' sake we present data as in other cases of this series.

B. S. H. 12,018. Path. 1913.44. Female. Age at onset and death, 44 years.
Duration before admission, 1 month and 14 days.
Hospital Residence. One day.
Diagnosis. (Melancholia (?)—by outside physicians. (Central neuritis, Boston State Hospital.)
Continued mental illness.
Terminal Illness. Acute interstitial nephritis?
Bacteriology. Heart's blood, negative.
Cerebrospinal Fluid. Bacterium capsulatum.
Bronchial Lymph Node. Micrococcus pyogenes aureus and micrococcus roseus.
Trunk—Chronic Changes. Pleuritis (right) sclerosis of coronaries and aortic valve. Fatty liver, fibroma of uterus.
Trunk—Acute Changes. Hypostatic pneumonia, peribronchial lymphnoditis, follicular colitis, interstitial nephritis.
Body Length—152 cm. *Brain Weight*—1350. (Tigges' formula 1216.)
Lymph Nodes. Peribronchials enlarged.
Ductless Glands: Pituitary negative; thyroid small; adrenals thin. Ovaries firm.

III. *Normal-looking brain in Korsakoff's (alcoholic) psychosis (ten weeks' duration of symptoms). Erroneously diagnosticated general paresis.* The erroneous diagnosis was at the Psychopathic Hospital, whose officers chose to discount a negative Wassermann serum test and a negative cytological examination of the liquor cerebrospinalis, and trusted to certain suggestive mental symptoms and reflex-disorders. Upon transfer to the Main Hospital, the case was diagnosticated Korsakoff's psychosis, on the basis of the following findings: Pupils unequal, re-

acting to light within narrow limits, and are irregular in outline. Knee jerks, right more lively than left; trouble in locomotion; restlessness; hunger; untidiness; fabrication and miscalling of bystanders.

B. S. H. 11,226. Path. 1913.6. Male. Age at death, 44.
Duration. Two months, 14 days.
No *previous attacks.*
Terminal Illness. Sudden death, choking and vomiting.
Bacteriology.—Heart's blood negative.
Cerebrospinal Fluid. Cladothrix invulnerabilis.
Trunk—Chronic Changes. Fibrous pleuritis, epicarditis, sclerosis coronaries, endocarditis, aortic sclerosis, pulmonary tuberculosis. Horse-shoe kidney.
Trunk—Acute Changes. Ileitis, injection duodenum.
Body Length—168 cm. *Brain Weight*—1450. (Tigges' formula 1344.)
Lymph Nodes. Negative.

IV. *Normal-looking brain (over-small?) in delirium tremens (five weeks' duration of symptoms) erroneously diagnosticated general paresis, tabetic form.* Microscopic examination showed numerous acute cell changes, but no evidence of general paresis.

It is probable that this brain, weighing but 1010 grams as against a weight calculated by Tigges' formula (8 x 151) (the body length) of 1208 grams, should be regarded as either hypoplastic or atrophic.

B. S. H. 9,981. Path. (1911.11). Female. Age at death, 35.
Duration of Mental Illness. One month, 4 days. Continuous mental disease.
Diagnosis. Taboparesis (erroneous).
Bacteriology. Heart's blood, streptococci. Cerebrospinal fluid, negative. Right middle ear, bacterium aerogenes group. Mesenteric lymph node, negative.
Trunk—Chronic Changes. Decubitus. Splanchnoptosis, ascites, cystic oöphoritis, epicarditis, hypertrophy of heart. Healed pulmonary tuberculosis, chronic interstitial nephritis, chronic ileitis, uterine growth.
Trunk—Acute Changes. Hemorrhagic-oöphoritis, acute diffuse nephritis, injection lower lobes of lungs.
Lymph Nodes. Mesenteric enlarged.
Ductless Glands. Pituitary negative. Thyroid very small. Ovaries—one cystic, one hemorrhagic, adrenals normal.
Body Length—151 cm. *Brain Weight*—1010 grs. (Tigges' formula 1208.)

V. *Normal-looking brain in epileptic psychosis.* (Epilepsy since infancy, dementia from 18+, death at 38.) Microscopically, numerous cell losses,—not here further considered.

B. S. H. 4810. Path. (1911.26). Male.
Diagnosis. Epilepsy.
Terminal Illness. Bronchopneumonia.
Trunk—Chronic Changes. Emaciation, hypertrophy of heart, decubitus.
Trunk—Acute Changes. Bronchopneumonia, congestion kidneys.
Lymph Nodes. In left groin enlarged.
Ductless Glands. Pituitary, thyroid, adrenals negative, testes negative.
Body Length—150 cm. *Brain Weight*—1460 grs. (Tigges' formula 1200)

VI. *Normal-looking brain in a syringomyelic subject with mental symptoms.* (Special study to be published shortly by Dr. H. I. Gosline.)

B. S. H. 9445. Path. (1911.31). Male. Age at onset of mental symptoms, 39 years. Age at death, 43 years.
Duration of Mental Disease. 42 months, 27 days. Mental disease uninterrupted.
Diagnosis. Organic dementia or general paresis.
Terminal Illness. Acute vegetative endocarditis.
Trunk—Chronic Changes. Decubitus, pericarditis, endocarditis, aortitis, fatty hepatitis.
Trunk—Acute Changes. Acute vegetative endocarditis.
Body Length—162 cm. *Brain Weight*—1355 grs. (Tigges' formula 1296 grs.)
Lymph Nodes. Not enlarged (bronchial).
Ductless Glands. Pituitary, thyroid, adrenals, negative. Testes negative.

VII-X. *Four normal-looking brains in Senile Psychoses.* The microscopic examination of all four, so far as completed, exhibits obvious cell-losses, although three of the brains are considerably overweight, and two of them markedly so.

B. S. H. 9314. Path. (1911.32). Female. Age at onset, 64. Age at death, 66.
Duration. 25 months, 10 days.
Continuous mental disease.
Diagnosis. Senile dementia, senile psychosis (presbyophrenic type).
Terminal Disease. Chronic interstitial nephritis, cardiac hypertrophy and general anasarca.
Bacteriology. Heart—micrococcus xanthogenicus, micrococcus varians, micrococcus rubescens. C.S.F. —micrococcus xanthogenicus, micrococcus luteus, micrococcus rubescens, micrococcus simplex.
Retroperitoneal Lymph Node. Micrococcus pyogenes aureus.
Trunk—Chronic Changes. Slight emaciation, ascites, periappendicitis, hydropericardium, myocarditis, endocarditis, apical tuberculosis (healed), pleuritis, nephritis, perihepatitis, gall stones, passive congestion liver.
Trunk—Acute Changes. Absent.
Lymph Nodes. No change.
Ductless Glands. Pituitary, thyroid, negative; adrenals negative, ovaries cystic.
Body Length—164 cm. *Brain Weight*—1340 grs. (Tigges' formula 1312).

B. S. H. 10.500. Path. (1912.37). Female. Age 71.
Duration of Mental Disease. Seven months, 19 days. Mental disease continuous.
Diagnosis. Senile psychosis.
Terminal Illness. Bronchopneumonia.
Trunk—Chronic Changes. Emaciation, adhesive pleuritis, bronchiectasis, brown atrophy of heart, chronic interstitial nephritis, myoma of uterus, hepatic atrophy, splenic atrophy, arteriosclerosis.

Trunk—Acute Changes. Streptococcus septicemia.
Ductless Glands. Adrenals large.
Body Length—153 cm. *Brain Weight*—1380 grs. (Tigges' formula 1224 grams.)

B. S. H. 10,192. Path. (1913.16) Male. Age at onset, 75. Age at death, 77.
Duration. 21 months, 21 days.
Diagnosis. (Senile psychosis with delusions and deterioration.) (Cerebral arteriosclerosis.)
Terminal Disease. Gangrene of lung and arteriosclerosis.
Bacteriology. Heart's blood micrococcus tenacatus. Cerebrospinal fluid, bacillus formosus.
Trunk—Chronic Changes. Elephantiasis? decubitus, ascites; sclerosis mammary, coronary arteries; thrombosis mesenteric veins; pleuritis, aortitis, healed pulmonary tuberculosis, renal lithiasis, hepatic cysts, hypertrophy of prostate, lipoma.
Trunk—Acute Changes. Fibrinous pleuritis, gangrene of lung, hemorrhages in spleen.
Lymph Nodes. Perioesophageal lymph nodes enlarged. Peribronchial lymph nodes enlarged.
Ductless Glands. Pituitary, adrenals negative.
Body Length—137 cm. *Brain Weight*—1440 grs. (Tigges' formula 1096 grms.)

B. S. H. 10,241. Path (1911.42). Female. Age at onset, 77. Age at death, 80.
Duration—36 months, 22 days.
Continuous mental disease.
Diagnosis. Senile psychosis, simple deterioration.
Trunk—Chronic Changes. Emaciation, edema, decubitus, periappendicitis, perihepatitis, sclerosis majority of vessels. Hypertrophy heart, endocarditis, pulmonary tuberculosis, interstitial nephritis, fibromata of uterus.
Trunk—Acute Changes. Hemorrhagic ascites.
Ductless Glands. Pituitary negative, thyroid small, adrenals plump and large.
Body Length—140 cm. *Brain Weight*—1125 grs. (Tigges' formula 1120 grams.)

XI. *Normal-looking brain in an exhaustion-psychosis of unknown but brief duration.* Orienting microscopic examination of the two prefrontals, superior parietal and calcarine areas, showed cell losses characteristically in the outer layers, but also to some extent in inner layers. The most marked cell losses appear in prefrontals and left superior parietal area. It seems hard to explain these findings on the basis of a lesion of brief duration unless at times a brief or critically acting agent may kill cells in such wise as to provoke little or no neuroglia reaction.

B. S. H. 10,284. Path. (1912.7). Male, aged 43. Age at onset, 42. In Hospital 2 months, 25 days.
Duration before admission, unknown.
Diagnosis. Exhaustion psychosis.
Terminal Illness. Pulmonary tuberculosis.
Bacteriology. Heart's blood, micrococcus cumulatus. Cerebrospinal fluid, micrococcus ovalis.
Trunk—Chronic Changes. Sacral decubitus, chronic periappendicitis, sclerosis coronaries, hypertrophy heart, interstitial nephritis, atrophy of liver.
Trunk—Acute Changes. Bronchopneumonia.
Ductless Glands. Adrenals fat. Pituitary edematous. Undescended testicle.
Lymph Nodes. Mesenteric lymph nodes prominent.
Body Length—141 cm. *Brain Weight*—1550 grs. (Tigges' formula 1128 grams.)

XII. *A doubtful case of paranoiac nature, complicated by toxic features.* The orienting sections showed only slight and focal cell losses in the cortex, and for the rest only various marked evidences of cell disease without cell destruction.

B. S. H. 10.416. Path. (1912.41). Female. Age at onset, 50? marked at 59. Age at death, 60.
Duration of Mental Disease. 127 months, 27 days. Mental disease continuous.
Diagnosis. Paranoiac condition. (Toxic?)
Terminal Illness. Pulmonary tuberculosis.
Trunk—Chronic Changes. Emaciation, visceral peritonitis, pleuritis, pulmonary tuberculosis, pericarditis, hypertrophy of heart. Tuberculosis of intestine (ulceration) perioöphoritis.
Trunk—Acute Changes. Thrombus, aorta.
Lymph Nodes. Bronchial and mesenteric enlarged.
Ductless Glands. Pituitary, thyroid, negative; adrenals small, ovaries small.
Brain Weight—1130 grams. (Tigges' formula 1184 grams.)

XIII-XV. *Three normal-looking brains in cases of involution-psychoses.* Orienting examination in these cases similar to XI indicated that XIII was probably a case of brain atrophy, that XIV was possibly an arteriosclerotic dement, (at any rate microscopic changes in this patient of 84 were rich enough) and that XV was quite beyond question a case of brain atrophy.

B. S. H. 7771, 8933. Path. (1911.5). Female. Age 71. Age of onset, 65; age at death, 73.
First Attack. Duration (onset 65), 24 months, 12 days.
Second Attack. Duration (onset 70), 31 months, 11 days.
Diagnosis. Chronic melancholia.
Terminal Disease. Facial erysipelas and bronchopneumonia.
Bacteriology. Heart's blood, bacterium gallinarium. Cerebrospinal fluid: Micrococcus candicans.
Trunk—Chronic Changes. Emaciation, ascites, splanchnoptosis, periappendicitis, pulmonary tuberculosis, pleuritis, coronary sclerosis, endocarditis, gall stones, interstitial pancreatitis, fibromata oöphoritis.
Trunk—Acute Changes. Hemorrhagic endometritis, bronchopneumonia.
Lymph Nodes. Cervical lymph nodes calcified.
Ductless Glands. Pituitary negative, thyroid—cystic, adrenals, autolysed, ovaries atrophied.
Brain Weight—1130 grams. (Tigges' formula 1240.)

B. S. H. 4798, 5394. Path. (1912.11). Male. (1) Age at onset, first, 67. In hospital Aug. 2, 1895, to Dec. 16, 1895. Discharged improved.
Diagnosis. Acute melancholia.
(2) Age at onset, second, 70. In hospital, 14 yrs.
Diagnosis. Involution melancholia.
Entire duration of mental disease, 168-3/30 mo.

Cause of Death. Acute dilatation of the heart.
Course of Disease. Interrupted at first, latterly continuous.
Bacteriology. Heart's blood. Micrococcus cremoides. Cerebrospinal fluid, negative. Bladder, bacterium gallinarum. Prostate, bacterium gallinarum.
Trunk—Chronic Changes. Perisplenitis, peri- and hepatitis. Sclerosis—mammary, coronaries and aorta. Fatty myocarditis, hepatitis. Dilatation of heart and two incompetent valves, tricuspid and mitral. Chronic interstitial nephritis with cysts.
Acute Changes. Injection gastric and intestinal mucosa, acute cystitis, pus in prostate—acute splenic tumor.
Lymph Nodes. None enlarged.
Ductless Glands. Thyroid, adrenals very small. Testes, pituitary not notable.
Body Length—172 cm. *Brain Weight*—1430 grs. (Tigges' formula, 1346 grams.)

B. S. H. 9924. Path. (1912.29). Female. Age at onset, 58; in hospital 18-14/30 mo.
Entire length of mental disease, 20-14/30 mo.
Diagnosis. Involution melancholia.
Course of Disease. Continuous.
Terminal Illness. Septic endocarditis with multiple septic emboli.
Trunk—Chronic Changes. Chronic pleuritis, hypertrophy of heart, sclerosis aorta, atrophy of spleen, atrophic uterus, splenic infarction.
Trunk—Acute Changes. Slight hemorrhages in gastro-intestinal tract, thrombus in aorta.
Lymph Nodes. Not enlarged.
Ductless Glands. Adrenals, ovaries, pituitary negative. Testes negative.
Body Length—150 cm. *Brain Weight*—1050 grs. (Tigges' formula, 1200 grams.)

XVI-XVIII. *Three normal-looking brains in manic-depressive psychosis.* Orienting examination in these three cases showed in XVI and XVIII a moderate degree of cell loss and in XVII numerous cell losses, especially in the upper layers. Possibly XVI and XVIII are most nearly normal microscopically of this whole group (with the exception of the dementia precox XX).

B. S. H. 9483. Path. (1911.36). Female. Age at onset, 29 years. Age at death, 31 years.
Duration. One month before admission. Total duration, 19 months, 28 days.
Diagnosis. Manic depressive.
Terminal Disease. Pulmonary tuberculosis and enteritis.
Trunk—Chronic Changes. Emaciation, edema, decubitus, ascites, pleuritis, pericarditis, hydropericardium, heart hypertrophy, sclerosis aorta, anomaly aorta. Pulmonary tuberculosis, intestinal tuberculosis, interstitial nephritis, fatty hepatitis, cystic organ of Rosenmüller.
Trunk—Acute Changes. Absent.
Lymph Nodes. Induration mesenteric lymph nodes.
Ductless Glands. Pituitary plump, adrenals soft, ovaries firm and thin.
Body Length—152 cm. *Brain Weight*—1140 grs. (Tigges' formula, 1216 grams.)

B. S. H. 5,884, 6,791, 7,040, 10,594. Path. (1913.29). Female.

(1) Age at onset, 41; in hospital 2 years. Discharged improved. *Diagnosis.* Acute melancholia.
(2) Age at onset, 43; in hospital 4 months. Discharged improved. *Diagnosis.* Folie circulaire.
(3) Age at onset, 43; in hospital 7 years. Discharged to Medfield. *Diagnosis.* Recurrent mania. Manic depressive insanity. In Medfield two years, discharged to Boston State Hospital.
(4) Fifty-two years. In hospital 13 months. Entire duration mental disease, 162-17/30 mo.
Diagnosis. Manic depressive.
Interrupted at first, latterly continuous.
Terminal Illness. Pulmonary tuberculosis.
Bacteriology. Heart's blood, negative. Cerebrospinal fluid negative.
Trunk—Chronic Changes. Emaciation, atrophy of heart, fatty liver, pulmonary tuberculosis, tuberculosis of intestines, lymphatic hyperplasia.
Trunk—Acute Changes. Absent.
Lymph Nodes. Lymph node hyperplasia appendix and cecal nodes. Ductless glands, adrenals negative, ovaries elongated, white, flat.
Body Length—153 cm. *Brain Weight*—1300 grs. (Tigges' formula 1224).

B. S. H. 11.312. Path. (1913.7). Female.
First Attack. Age at onset 20 (for one year). Recovered, not in a hospital.
Second Attack. Age at onset, 62 (for two years, 14 days). Age at death, 64.
Diagnosis. "Unclassified," Psychopathic Hospital. Manic depressive, depressed; second attack, Main Hospital.
Terminal Illness. Bronchopneumonia. Several days' duration.
Bacteriology. Heart's blood, streptococcus acidi, lactici. Cerebrospinal fluid, bacillus cinctus.
Trunk—Chronic Changes. Corset liver, pleuritis, sclerosis, aorta, coronaries; atrophy of spleen, interstitial nephritis, gall stones, hydropericardium, thickening and swelling right vocal cord, bronchopneumonia, lymphnoditis, vegetative aortitis, pial hemorrhages, aortic thrombus.
Lymph Nodes. Peribronchial enlarged.
Ductless Glands. Adrenals negative, ovaries sclerosed.
Body Length—148 cm. *Brain Weight*—1370 grs. (Tigges formula 1184.)

XIX-XX. *Two normal-looking brains in dementia precox.* Case XIX, with a well marked underweight brain showed also an underweight heart and liver but failed to show any marked evidence of cell loss in orienting examination as carried out in the six selected regions as mentioned under XI. Only after considerable search in further section was any evidence of cell loss discovered, namely foci of cell loss in right second temporal gyrus. Naturally it would be unwise to correlate the clinical symptoms of any case with so exiguous a lesion.

Case XX showed moderate degrees of cell loss in practically all the areas examined. As above stated, Case XX and the manic-depressive cases, XVI and XVIII are the most free of microscopic alterations of a marked degree in the series.

B. S. H. 8663. Path. (1910.9). Female. Age at onset, 42. Age at death, 56.
Duration of Mental Disease. Fourteen years.

Mental disease interrupted.
Diagnosis. Dementia precox.
Terminal Illness. Osteomyelitis.
Trunk—Chronic Changes. Emaciation, decubitus, edema, ascites, pleuritis, hydropericardium, brown atrophy of heart. Endocarditis, thyroiditis, perisplenitis, gall stones.
Trunk—Acute Changes. Splenitis, nephritis, ileitis.
Lymph Nodes. Retroperitoneal lymph nodes. Superficial lymph nodes enlarged.
Ductless Glands. Ovaries atrophied. Pituitary negative. Thyroid atrophied. Adrenals negative.
Brain weight—1100 grams. (Tigges' formula 1200.)

B. S. H. 10,144. Path. (1912.47). Female. Age at onset, 25; in hospital 27 months, 27 days.
Diagnosis. Dementia precox (catatonia). Entire duration mental disease, 28-3/30 mo.
Continuous mental disease.
Terminal Illness. Pulmonary tuberculosis.
Bacteriology. Heart's blood, bacillus antenniformis. Cerebrospinal fluid, micrococcus citreus and micrococcus concentricus.
Trunk—Chronic Changes. Emaciation, edema, decubitus, tuberculous peritonitis, pulmonary tuberculosis, splenic tuberculosis, hepatic tubercles, oöphoritis and salpingitis, fibroma of uterus, hydrothorax, hydropericardium.
Trunk—Acute. Changes absent.
Lymph Nodes. Mesenteric enlarged.
Ductless Glands. Thyroid, adrenals, ovaries, pituitary negative.
Body Length—148 cm. *Brain Weight*—1210 grs. (Tigges' formula, 1184 grams).

CONCLUSIONS.

1. The present is a fragment from more extensive studies tending to settle the question how far mental disease is consistent with normality of brain; and as in previous work from the Worcester State Hospital, so this work from the Boston State Hospital has chosen to begin with normal-looking brains, since these are more likely to be essentially normal than those brains which yield obvious lesions.

2. On comparison with the Worcester percentage of normal-looking brains, viz., about one in three, and the Danvers percentage, viz., about one in four, the present Boston percentage is much lower, viz., about one in eight.

3. We do not deny that some of the lesions found in the *abnormal* brains may have had little or nothing to do with the mental disease which their bearers showed; the point of our research lodges in the endeavor to discover essentially normal brains in subjects of mental disease. There are 20 in 153 examined by uniform methods which gave promise of being microscopically as well as macroscopically normal.

4. One normal-looking brain yielded a chronic-looking exudate, Case I (12.55) which was a case of general paresis of brief duration (less than five months), clinically certain, showed nerve-cell, and fibre-changes, gliosis and perivascular mononucleosis (including plasma cells) of fairly even degree throughout sections examined. The gross examination yielded opaque points of thickening in the pia mater over the vertex. The dura had begun to thicken and the calvarial diploe had begun to disappear. The brain had not lost more than 100 grams in weight (Tigges' formula).

5. One case yielded evidences of acute perivascular exudate post-pneumonic encephalitis) but the mental picture cannot be regarded as due to the exudate.

6. The suspicion is often uttered that cases not infrequently show fine vascular disease not evident in the gross. No such case has appeared; but there was one (X, 11.42) which, despite coarse changes in the basal vessels, was included in the normal-looking series and microscopically showed slightly marked fine vascular changes with equally marked cortical changes (no infarcts but generalized and focal losses). This case was a female of 80 whose brain weighed 1125 grams, *i. e.* 5 grams above the calculated weight according to body length. It is possible that the brain was slightly edematous—vacuoles among nerve cells (18 hours postmortem, tuberculous peritonitis). The brain was included in the normal-looking series, although on the autopsy table the diagnosis of "general cerebral gliosis" was made (confirmed by the excess of cells in the plexiform layer in virtually every region examined). It may be inquired why a case with basal vascular disease should not be forthwith excluded on the ground that fine changes will be certain to be found; but they are not sure to be found as XIV, 12.11, proved (since in this case there were *gross arterial* changes and *few or no fine* vascular changes).

7. We have accordingly reduced our 20 normal-looking cases to 18 which still give some promise of proving normal on microscopic examination. One of these 18 was a case of epilepsy, V, 11.26, with dementia; and, since the epilepsy began in infancy, it is doubtful whether it should be included in this study. Microscopically in any event, there were numerous evidences of cell-losses.

8. If we exclude this case of epilepsy from the normal-looking numerator of the fraction, we should also possibly exclude 5 other epileptics (or in all 6) from the denominator, yielding a percentage of 11.5 *i.e.* 17 in 147 cases excluding all epileptics and two cases I and X in which the microscope revealed changes which should theoretically yield gross lesions.

9. In a study of the percentage of normal-looking brains, it would be wise also to exclude clear cases of imbecility, of which there were 2 in the series, neither of which yielded a normal-looking brain; this makes a percentage of 11.7% normal-looking brains in a series of 145.

10. In the analysis of this residue of 17 normal-looking brain cases, we must first consider the question of atrophy or aplasia. Eleven cases yielded brain weights above normal, employing Tigges' formula (*i.e.* 8 × body length in cm. = probable brain weight). Six remaining brains weighed less than normal according to this formula. Of these six, one (Case IV, 11.11) yielded a brain weight, 1010 grams, calculated weight 1208 grams, which should probably make this case fall into the atrophic brain group. The reflex picture and certain other clinical features gave rise to the diagnosis *taboparesis*. The total duration was but one month and four days. The absent knee jerks proved due either to axonal anterior horn cell reactions or to peripheral neuritis (abundant Marchi degenerations); and it is probable that we are dealing with a *Korsakoff's psychosis* (history of previous attacks of alcoholic mental disease not obtained, but possible). Abundant evidence of cell-loss with satellitosis was found in many areas microscopically.

Another case (XV, 12.29) yielded a brain weighing 1050 grams, *i.e.* a calculated loss of 150 grams. This case showed various evidences of atrophy in other organs also, and microscopically a remarkably diffuse cell loss in the cortex. Clinically the case was one of involution melancholia, 59 years of age, of 20 months and 14 days.

12. Case XIII, 11.5, with a calculated brain weight loss of 120 grams was a female of 73 years, with total duration of about 8 years. The microscopic evidences of cell loss were such that this case also must probably be placed in the atrophic group; in point of fact her brain atrophy was probably obscured by increase of weight 8½ days post mortem (brain not palpably soft on account of gliosis).

13. XIX, 10.9, with a calculated brain weight loss of 100 grams, showed a small heart (145 grams) and a small liver (1000 grams). This case probably does not belong in the atrophic group, since microscopically there was small evidence of cell-loss. This case of paranoid dementia precox will be considered below. XVI, 11.36, and XII, 12.41, with calculated brain weight losses of 76 and 54 grams respectively, can also hardly be classed as showing important degrees of brain atrophy (see below).

14. One case (VII, 11.31) must be excluded from the present analysis, because total brain sections are in process of making (case of syringomyelia).

15. There remains a group of 12 cases, excluding I, XIV, V from the original 19, *i.e.* I as general paretic, XIV as arteriosclerotic dement, V as epileptic, IV, XV and XIII as having atrophic brains, VI as syringomyelia (analysis unfinished). We accordingly remain with one normal-looking brain in twelve.

16. The residue of normal-looking brains, with the above eight omissions, consists of the following twelve:—

Case.	Sex.	Age.	Onset.	Duration.	Diagnosis.
2 (13.44)	F.	44	44	1½ mos.	Central neuritis.
3 (13.6)	M.	44	43	2½ mos.	General paresis? Korsakoff.
8 (12.37)	F.	71	71	8 mos.	Senile psychosis.
9 (13.16)	M.	77	75	22 mos.	Senile psychosis; cerebral arteriosclerosis.
11 (12.7)	M.	43	42	3 mos.	Exhaustion psychosis.
12 (13.41)	F.	60	50	10 2/3 yrs.	Unclassified (paranoia).
14 (12.11)	M.	84	67	14 yrs.	Involution-melancholia.
16 (11.36)	F.	30	29	20 mos.	Manic-depressive psychosis.
17 (13.29)	F.	53	41	13½ yrs.	Manic-depressive psychosis.
18 (13.7)	F.	64	20	2-11½ yrs.	Unclassified manic depressive.
19 (10.9)	F.	56	42	14 yrs.	Paranoia or dementia precox.
20 (12.47)	F.	27	25	28 yrs.	Dementia precox (catatonia).

17. Attention is first directed to four cases of mental disease over ten years in duration; these are XIX, XIV, XII and XVII.

18. This group of cases in which gross registration of lesions might have been expected, was subjected to orienting microscopic examination:—

XIX, 10.9, shows strikingly few evidences of cell loss, but careful search discovered foci of cell loss in the right second temporal gyrus. This case, though of slow evolution and diagnosticated paranoia, is thought to have had hallucinations of hearing as well as of sight. The delusions were largely of jealousy and otherwise sexual. One attack of so-called "cerebral congestion" at 40.

XIV, 12.11, involution-melancholia, 84 years at death, exhibited considerable cell loss in outer layers without marked satellitosis. Marked cell loss in calcarine region.

XII. 12.41, unclassified paranoic case, died at 60, showed fairly numerous cell losses.

XVII, 13.29, manic-depressive psychosis, died at

53, showed numerous cell losses, especially in upper layers.

19. According to a principle mentioned in the Worcester analysis, it would be unlikely that induration should register itself in brains undergoing gliosis in less than three months. There were three cases (II, III, XI), of which II was the case of possible central neuritis with marked acute cell changes ample to explain roughly the brief mental disease, III showed numerous acute cell changes probably quite consistent with the mental picture (Korsakoff's psychosis) and XI showed cell losses, perhaps of long standing (although there were overt symptoms for three months only) together with acute cell changes.

20. The group of intermediate duration, three months to three years, comprises 5 cases, XVI, VIII, XX, XVIII, IX. Of these, VIII, age 71, and IX, age 77, attract attention on the score of age; both showed cell losses, in the former focal with perivascular gliosis, in the latter marked diffuse losses. Of the three remaining, two are manic-depressive cases (XVI, 11.36, and XVIII, 13.7) and one (XX) catatonic dementia precox. All three showed moderate degrees of cell loss.

21. Accordingly, it is plain that the search for functional psychoses which shall be above all neuropathological reproach is an exceedingly elusive task and possibly never to be rewarded. In a forthcoming communication we shall deal with the detailed microscopic picture in five of the cases of this series (XII, XVI, XVIII, XIX, XX) since these five appear to be the least likely of all our series of 153 cases to show important microscopic lesions.

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THE EMERGENCIES OF EXTRA-UTERINE PREGNANCY AT THE BOSTON CITY HOSPITAL. AN ANALYSIS OF SIXTY-TWO CASES.

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EVER since the paper of Robb[1] appeared in 1908, the writer has been especially interested in the question of immediate or delayed operation in the emergencies arising from ruptured extra-uterine pregnancy.

The views expressed by Robb have caused so much discussion that the writer was led to study the cases treated by the Gynecological service at the Boston City Hospital from 1902 to 1913.

This paper is written after the study of 215 cases diagnosed as extra-uterine pregnancy and treated by the gynecological service since 1902, but deals only with 62 real emergencies which presented the symptoms accompanying ruptured ectopic gestation with severe hemorrhage. These 62 emergencies comprise 31 with a previous history, and symptoms typical of ectopic gestation; and yet in many of these the microscope revealed no sign of pregnancy in the tissues examined.

As they presented, however, such objective symptoms as shock, tubal rupture and severe intra-abdominal hemorrhage, there can be little doubt as to causation. Under any circumstances, the indications as to treatment were identical and hence they have been included. Among these 62 emergencies were 2 coincident extra- and intra-uterine pregnancies, 2 repeated extra-uterine pregnancies, and one twin pregnancy in a single tube.

Analysis of Cases. In 5 the age is unstated. In each of the decades from 20-30 and 30-40 years, the numbers are equal,—28 in each; while after 40 years there is only one. There are none under 20 years.

Obstetric History. Of the whole series, 12 women had never borne children, 14 had previously been pregnant once, 13 twice, 6 three times, 6 four times, 8 had been pregnant five times or over, and in 3 this was not recorded.

The time elapsed since the previous pregnancy among 37 women was: 3 years or under, 16; 3-5 years, 13; and 5-15 years, 9.

Of 46 cases, the previous pregnancy terminated normally in 30, 14 miscarried, and 2 had an ectopic pregnancy.

Duration of pregnancy at the time of rupture in 58 women was: under 2 months in 27, from 2 to 3 months in 26, 3 to 4 months in 4, and 4 months in one.

There were 3 early ruptures: 2 at 2 weeks, and 1 at 3 weeks after the last menstruation.

The last case was interesting, as the tube ruptured near the isthmus, opening the branch of the ovarian arch which runs beneath the tube. The enlargement was about one-half centimeter in diameter, and microscopic examination failed to demonstrate a pregnancy. As there seemed to be no reason to doubt an ectopic gestation in this case, it has been included.

Site of Rupture and Tube Affected. The first was definitely stated in 18: isthmus, 11; central portion, 3; outer end, 4.

The left tube was ruptured in 29, and the right in 27.

There were 3 tubal abortions, all on the left side, and no statement in regard to 3.

Pulse. Of 61 patients, the pulse was 100 or below in 12, and between 70 and 80 in 3. In 27 it was above 120,—170 being the highest rate recorded. The remainder varied from 100 to 120.

Temperature. Of 62 women: 29 had a temperature of 98° or below, 40 a temperature of not over 99, and only 9 rose to over 100°.

Two cases entered with temperatures of 101.2° and 104.2°, respectively.

The Blood Counts. As the bulk of our cases have been operated at night, only 16 have the hemoglobin estimated, and in all these, the sudden onset occurred at least 12 to 24 hours previous to operation. In 3 the percentage was below 40, and in 2 of these so low as to be uncertain by the color test. The remainder were 60% or under, with one exception of 80%.

In looking over these cases we find that the rise of hemoglobin in the blood is a slow process, even after the chance of hemorrhage is past. One patient with 50% hemoglobin at the time of operation had no change by the second day, one with 60% no change on the third and only 5% advance on the eleventh day. Another with 50% on admission had only 60% after 20 days, while one, with hemoglobin too low for estimation, rose only to 45% after 3 weeks. In still another, the hemoglobin gained from 60% to 90% in 19 days, but this is exceptional, and in the first eleven days there was a gain of only 5%.

The red count at entrance, in 4 cases, was between 3 and 4 million, while the patient with extremely low hemoglobin, mentioned above, had 1,164,000 and recovered.

The white count was given in 24 cases and varied from 6400 to 32,000; 10 having a count of 10,000 to 20,000, and 11 of 20,000 or over.

No relation of the white count to either the amount of blood lost or the duration of the rupture could be made out, some of the most severe cases having small leucocytoses.

As showing the rise in reds and hemoglobin, the results are given below in a case recently operated but not included in the series:—

Day after operation	3	6	9
Reds	1,888,000	2,424,000	3,200,000
Hemoglobin	30%	45%	65%

Day after operation	12	24
Reds	3,800,000	3,520,000
Hemoglobin	70%	85%

Symptoms. The symptoms, beside those of ordinary pregnancy, may be broadly divided into two groups: first, premonitory; second those connected with rupture. The first were usually subacute and separated from those connected with rupture, or the acute symptoms, by a definite interval during which symptoms were either wanting or of a mild character. In a few cases the premonitory symptoms were acute, and in some were prolonged into those immediately preceding operation.

In 15 of 60 women, however, there were no disturbing symptoms until the time of rupture. Three of these pregnancies ruptured early: 1 at 6 weeks, and 2 at 5 weeks after the last menstruation, while 2 ruptured at 3 and 3½ months, respectively.

On the other hand, 45 women gave a definite history of suspicious or alarming symptoms for some time previous to the attack for which they entered the ward; if coupled with the acute symptoms which followed and were present on admission.

Premonitory Symptoms were evident in 15 of these from 2 to 7 days before operation, in 27 for from 8 days to 4 weeks, in 2 for 6 weeks, and in 1 for 8 weeks.

These symptoms consisted of:—

(*a*) *Amenorrhea.* Excluding 6 women who ruptured before the following menstrual period was due, this symptom, with others, was common to 39, and appeared in 54 of the 60 cases with histories obtained.

Of 15 women with amenorrhea as the only symptom before rupture: 6 were over 2 months pregnant, and of these, 2 were 3 and 3½ months, respectively, *i.e.* about one-third had simply an amenorrhea.

(*b*) *Abnormal Flowing.* In the 6 early ruptures mentioned in the preceding paragraph, 5 had either an irregular or constant flow, commencing with or shortly after the last regular catamenial period.

In 41 out of the 45 with distinct premonitory symptoms, flowing appeared at various intervals and more often for varying periods before the rupture.

In 20 flow and pain were combined, and 7 flowed without pain.

(*c*) *Abdominal Pain.* This was a complaint in 25 and was localized by 13 in the lower abdomen.

It was described by 16 as intermittent and sharp, and by 9 as dull and persistent.

In several there were attacks at varying intervals, and in 20 it was accompanied by flowing, as stated above.

Acute Symptoms. The records contain statements concerning acute symptoms in 59 cases.

In 8, these had been manifest from 2 days to 3 weeks before entrance; and in the remainder, under 24 hours.

Sudden abdominal pain was characteristic of the great majority, but in 7 this was an increase of existing or a recurrence of similar less acute attacks. In 2 there was simply increasing weakness and pallor after previous intermittent or persistent abdominal pain, for a period of 3 weeks in one and 6 weeks in another.

Pain was apparently unlocalized in 21—2 stating it to be general.

Pain was localized by 16 in the lower abdomen and by 1 in the epigastrium, while by 21 it was definitely referred to the right or left pelvic region—always on the affected side.

Fainting is mentioned in 23 instances, nausea and vomiting in 5, and chills in 3.

A dark bloody flow from the uterus was often noted, but this is more characteristic of tubal abortions, while in some a boggy feeling was present in the vagina, with dullness, shifting dullness, tenderness and distention. The tendencies of temperature and pulse have been previously given.

Mortality. These cases have been treated by many operators and the walk of life from which the patients have been drawn has not been conducive to good operative results, many being extremely poor subjects for any operation on account of personal habits and a poor mode of life.

The total mortality is 24.2%, but 3 died of: cerebral embolus, patent foramen ovale, and infection before admission. With these omitted, the mortality is still 19.3%, but considering the class with which we deal and the condition of many at entrance there seems to be little likelihood of improvement.

Among the 15 women pregnant for the first time, 5 died,—one a tubal abortion.

In 2 of the 5 fatal cases, a chronic salpingitis was reported, and it does not seem improbable that they were infected at the time of rupture from old foci remaining in the pelvis. Three of the 5 died from peritonitis, and 2 from shock alone.

The causes of death in the 15 fatal cases are given below:—

Shock	8
Peritonitis	4
Cerebral embolus	1
Status lymphaticus and patent foramen ovale	1
Infection before admission	1

Summary. In reviewing these cases it is instructive to note that exactly 50% gave positive evidence of pregnancy. This may have been often due to the poor selection of tissue, but more probably to the destruction and washing away of evidence by the rupture and hemorrhage following.

With one exception, blood was distributed throughout the abdominal cavity, and in a number of instances the fetus was found floating in the blood.

Age had apparently no influence, as the cases were scattered through the child-bearing period, in such a manner as would be expected under normal conditions. Where recorded, the isthmus was definitely the seat of implantation in over 50% of the cases, and in many others the tube was probably in such condition that an exact statement was impossible.

It is also interesting that about one-half the series presented evidences of previous infection of the genital tract, or at least an obstetric history suspicious in this respect.

The cause of the abnormal pregnancy is obscure in a great proportion, for although adhesions were present in many the records do not always speak of them as of long duration, and in some the opposite tube was reported normal. The scarcity of the statements in regard to adhesions is not to be wondered at, when we consider the necessity for speed at the time of operation and the ease with which localized adhesions might be overlooked.

There seems to be some evidence, however, that an inflammatory condition may have been, in most cases, the determining cause, or at least have produced conditions interfering with the processes of conception.

In regard to the pregnancy immediately preceding in 50 women: 30 were delivered at full term, 14 miscarried, 2 had an ectopic gestation, and no history was available in 4.

The remaining 12 of the 62 cases were primiparae.

Of the 30 delivered at full term, 5 showed marked evidence of old inflammatory processes.

In 9 of the 14 miscarrying at the previous pregnancy, from 3 to 5 years had elapsed without conception, while one had 6 miscarriages in succession after an attack of pelvic inflammation 7 years before.

Chronic salpingitis was reported by the pathologist in 4, but no other data were available.

Of the 12 primiparae: 1 had gonorrhea, 2 were single, 2 had chronic salpingitis, and 8 out of 10 women had been barren for from 2 to 9 years after marriage.

Simpson from his exhaustive study of sterility and fecundity concluded that the chance of pregnancy was slight after the lapse of 3 years of married life, during the period when the chance of fecundity was greatest.

In 38 cases the last pregnancy had been from 3 to 5 years previous in 13, from 5 to 15 years in 9, and of the remaining 16, who had conceived within 3 years, 9 miscarried.

The average number of children borne by 54 women of our series at an average age of 31 years, was 2.42; while the average was 3.27 in 100 women taken from the medical records and averaging 31.23 years.

Realizing that figures as to pregnancy are apt to be fallacious, for many reasons, those in the preceding paragraph are given with these limitations in mind.

It may be said, however, that nearly one-half of the cases had either some actual abnormality or some point in their history which would make us suspicious that a pathological condition might reasonably exist.

The 60 cases, in which data were given concerning symptoms, show that prodromal signs were absent in only 25%, and in 75% they were of considerable duration for the most part, and distinct enough to have attracted the attention of a physician had one been consulted.

Among the 60 cases were three of tubal abortion, but they presented nothing in previous symptoms or in acute onset which would differentiate them from rupture; and in fact, with many tubal abortions, there is a considerable amount of damage to the fimbriated extremity.

Amenorrhea was wanting in only slightly

over 10% of 60 cases with data, and these ruptured before the following period was due. Flowing in these cases came on early after the last period and was persistent or irregular, ending in early rupture.

It is such cases which are so often mistaken for an early miscarriage, while with those of longer duration definite warning abdominal symptoms are seldom absent.

Abnormal flowing occurred in almost every case (4 without) as a premonitory sign, and in slightly over 44% flow and pain were combined.

Surprisingly few complained of abdominal pain as an early symptom (55%), and by still fewer (28%) was it localized, and then always in the lower abdomen.

According to this series, comparatively few ectopic gestations rupture without premonitory symptoms. Where sufficient time had elapsed, amenorrhea was always present to warn of a possibility, made more probable by the almost universal abnormal flow. The flow, in turn, was accompanied by pain in nearly one-half, and in 28% this pain was referred to the lower abdomen.

Not one of these cases was diagnosed previous to rupture, so far as is known.

We may also say, that with pain and flowing after amenorrhea, especially when preceded by longer periods without pregnancy, an investigation is always advisable.

The symptoms connected with rupture were such as are ordinarily given in text-books, and as patients entered the hospital only 2 gave difficulty in diagnosis and these were the only mistakes. One, with the uterus embedded in a symmetrical mass of clot, was mistaken for pregnancy. The second was diagnosed as a pelvic inflammation, and died without operation. This case was complicated by a patent foramen ovale and was in extremis.

Pelvic examination has given little aid in diagnosis, although a mass or a doughy feeling in the pelvis has been mentioned. Dullness in the flanks and shifting dullness have been noted in some, but have depended so much on the thickness of the abdominal wall and degree of intestinal distention as to be often of no special aid.

It is in these cases of rupture that the clots form slowly, and are of such a soft consistency as to be made out with difficulty, especially when hampered by the distention, which in itself has often been a mark of severe hemorrhage.

In connection with the appearance, history, location of pain, temperature, and physical examination, diagnosis has usually been clear.

Leucocytosis, when recorded, has been high in the majority and has furnished little aid in differentiating from sepsis, while no relation of the white count could be established to either the amount of blood or the duration of rupture. Some of the most serious had small counts, and one septic case a leucocytosis of only 7900.

The temperature has also not been elevated to such a degree as to suggest inflammatory processes, except in such cases as have been obviously infected at entrance. This is somewhat at variance with the reports in other series, where the greater number have had a temperature above normal.

The mortality of the series has already been given, and at once suggests the subject of treatment.

At the start, let it be understood that it is not intended to champion the cause of long delayed operations, for with the patient in reasonably good condition, operation at the earliest moment is always best, but from time to time papers have appeared urging immediate operation in every instance. To this view the writer takes exception, believing that the general application of this principle is wrong, and that a more moderate course is advisable.

In the not very distant past all ectopic gestations were treated expectantly, and it was not until 1849 that W. W. Harbert suggested laparotomy for the control of hemorrhage. Rogers in 1866, and Parry in 1876, again urged this treatment, which Tait was the first to adopt in 1883.

From that time to the present, operation has steadily increased in favor, until for the last twenty years it has been the recognized form of treatment, and when and how to operate the only question.

At a meeting of the American Gynecological Association, in 1908, the advisability of immediate, or delayed operation during shock was thoroughly discussed by men of large operative experience, the two factions being about equally divided.

Looking over the literature for the past few years, one finds many series of immediate operations with far better mortality than the present, but few with which it may be compared, as nearly all include tubal abortions—the less severe with the serious emergencies—and nearly all aim to show the necessity of haste. The statistics compiled by McDonald,[2] and the series of Ladinski,[3] Vineberg,[4] Price,[5] and others show excellent results for immediate operation; and it is manifestly unfair to refer to statistics of years long past, when abdominal surgery was not understood. It is also evident that the social or racial characteristics of the hospital clientele may have a considerable bearing on both methods and results.

Aside from Robb, who is a strong partisan, and Treub,[7] no one except Frank has apparently attempted to work out the problem of "delayed" or "immediate" operation with care. Frank's series is valuable because the individuals were treated in this country by one institution, and by both methods. His conclusions, however, as to operation do not seem entirely warranted by his statistics.

Furthermore, the term "immediate" operation, so often seen, is somewhat elastic, referring

generally to the time when the patient was first seen, and not to the time of rupture; nor has it always appeared to indicate an emergency.

The period elapsing between rupture and operation varies widely in our series, and undoubtedly the same conditions prevail elsewhere, therefore the term is inexact. In this discussion, "immediate operation" has reference to the time of hospital admission, but the duration of acute symptoms has usually been hours, and in a few instances, days, before entrance. All, however, were emergencies at the time of operation, and in a condition of shock. With one exception all were operated.

Practically all patients came from the lower strata, where hygienic conditions and habits do not tend to great bodily resistance, and the question arises as to whether immediate operation was best for all, viewed in the light of the ultimate mortality.

Every surgeon sees those emergencies in which the ability of the patient to withstand the extra shock of immediate operation is doubtful, and he is called upon to decide whether the outlook for recovery would not be bettered by delay, and whether delay in his doubtful cases has been justified by the results.

There seems to be no question but that extra-tubal and intra-tubal rupture (tubal abortion) differ in frequency as well as mortality, for McDonald in a series of 1607 cases, found only three extra-tubal to every seven intra-tubal ruptures, while in the 215 cases operated on the service, rupture was related to abortion as 1 to 3.7.

Intra-tubal rupture, or tubal abortion, is generally characterized by repeated small hemorrhages, which eventually build a laminated clot. This circumscribed irritation of the peritoneum results in a mass of blood surrounded by adhesions, the pressure of the blood in the sac appearing itself to help control further bleeding, even though smaller hemorrhages occur from time to time. For this reason tubal abortions seldom furnish emergencies, as is evidenced by only three grave operative cases among the one hundred and fifty tubal abortions which have been treated by the gynecological service at the Boston City Hospital, and only two immediate operations in the series of Frank,—one of these without free blood in the abdomen.

The reaction of the peritoneum to these localized hemorrhages indicates very conclusively that with the sudden introduction of even a moderate amount of blood into the peritoneal cavity, varying degrees of peritoneal irritation and shock must follow. Our series apparently shows that few women die primarily of hemorrhage, as in only two of the sixty-two emergencies was active bleeding found at operation, and the majority reached the hospital on an average of eight to ten hours after rupture. That the condition of these acute cases is not due entirely to the loss of blood, is borne out by the fact that the shock, rate and character of the pulse are not always in proportion to the blood lost, and that similar symptoms appear after the sudden rupture of the larger ovarian cysts, when there is little loss of blood. One of Frank's cases, with a pulse of 96, was in marked collapse from rupture alone, without much loss of blood, and one of the emergencies at the Boston City Hospital had a pulse of 72, with the abdomen filled.

It is also the writer's observation that the peritoneum of different individuals reacts in varying degrees, even where conditions seem identical,—blood in one apparently causing few, in another many, adhesions. For the same reason, the shock may be profound with a comparatively small hemorrhage. Furthermore, the ability to withstand operation after severe accidents differs as regards both individuals and races.

Using the hemoglobin as a rough estimate of the extent of bleeding, with any considerable amount of blood in the peritoneum, neither prostration nor pulse-rate or volume has the reasonable relation to the hemoglobin percentage which might be expected in patients of apparently equal physical vigor, although it is true we do not know the exact conditions at the start. Greater prostration is often manifested after a comparatively small hemorrhage.

Estimation of hemoglobin and blood corpuscles immediately after hemorrhage shows no special change, but after six to twelve hours, fluid is absorbed from the tissues, and the percentages lowered. Since both red count and hemoglobin appear to undergo slight changes during the first few days after operation, the fluid content of the blood has seemingly adjusted itself temporarily by the time these women reach the hospital, and on this account salt solution should be preferably given in such a manner as to be slowly absorbed, if the conditions warrant delay, and only rarely by intravenous injection. Women who have been treated without intravenous injection appear to make better recoveries and to have a less lasting anemia, even where emergencies seem of equal gravity.

It has never been possible for the writer to perform a transfusion, but in the only two which it has been his fortune to follow after operation, the bettered appearance has promptly disappeared after the first two days, and the pallor markedly increased, showing no advantage over the use of salt solution.

Experience, and a review of these emergencies, leads the writer to believe that it is *shock* not previous hemorrhage, which is the cause of death in those grave cases which succumbed shortly after operation, and that the "immediate" operation is the last straw.

It seems fair to assume that a patient suffering from shock, after pain and hemorrhage, will be more or less worn by an ambulance trip with stretcher bearing at both ends, to say nothing of

the psychic disturbance attendant upon probable operation. To add indiscriminately at this unfavorable moment the extra shock of anesthesia and an abdominal section, appears to the writer in certain cases extremely ill advised. The further decrease of resistance, due to operation, may also take away the ability to cope with organisms which under ordinary circumstances would be innocuous. Peritonitis following operation in such cases is often of a low grade, and in a number of cases it has probably arisen from a previous pelvic infection.

Most patients reach us hours after rupture, and as among sixty-one operative cases, only two were found with active bleeding noted; in taking the chance of hemorrhage, for a few hours at least, we are assuming no greater risk than in adding the shock of operation to that which already exists, as well as the possibility of infection in a state of very low bodily resistance.

It has also been said that patients are upon the "rebound" by the time the hospital is reached. This is true of some, but in others the opposite is equally true; and with the latter, reasonable delay allows opportunity to recover from the effects of transportation, preparation for operation, etc. In every very severe case, under careful supervision, delay should be extended, if possible, to include a reasonable recovery from shock. To this statement only one exception should be made,—the suspicion of active hemorrhage.

The pulse rate may rise slightly, but if the character improves and the rate steadies, no uneasiness need be felt on this account, while in many the rate will diminish after a short rest. Each case, however, must be considered on its own merits; and habits of life, race, and previous history mean something in addition to physical examination.

In the previously mentioned series of Frank, there were 42 ruptures, 21 of which were operated at once, and 21 "observed" before operation.

Of 77 operative cases in his list, including ruptures, abortions, hematoceles, etc., only 24 were operated immediately, including two tubal abortions and one hematocele. Four cases, comprising two ruptures, one hematocele, and one abortion, has no free blood in the abdomen, so that immediate operation was required in only twenty. The only deaths in the whole series were two operated in shock, and one septic hematocele.

Treub,[7] in 1908, published 151 cases (including tubal abortions) treated by deferred operation, excepting those with alarming symptoms, with a mortality of three.

Aside from three, dying of causes not directly connected with operation, there are eight of our own series who died of shock, and four with peritonitis,—all operated at once. Some of these, the writer believes, woud have lived had intervention been delayed, and in others, peritonitis might have been avoided by a more deliberate operation.

In no rupture has death resulted where operation has been delayed, by the writer, on account of the poor condition of the patient, but he regrets several who died as the result of an operation, undertaken during shock, for what was thought might be persistent hemorrhage.

As has been said before, the differences of the classes from which various hospitals draw their patients and the character of the emergencies received, renders it difficult to make fair comparisons, or to lay down rules suitable for all. When delay has been fairly tried, many serious extra-uterine emergencies have been tided over the critical period of shock, and have been operated successfully. Judging from the series upon which this article is based, and upon others which approach the matter without bias, the effect of an operation during shock is as much to be feared as continuance of hemorrhage, and delayed operation seems well suited to some, and immediate operation unnecessary for all.

On the side of the surgeon it often requires more courage to wait than to proceed immediately, but from the patient's standpoint, the teaching that "immediate" operation is always necessary is decidedly dangerous.

Tubal abortion, with its few emergencies and small mortality, is much more frequent than rupture, and not a few of the former will be treated under poor surroundings by the incompent, to say nothing of the real emergencies which demand still greater judgment and skill. For this reason alone, care is very necessary in advising this treatment under all circumstances; but for those patients who are in a suitable physical condition, amid proper surroundings, and in competent hands, immediate operation will always remain the proper choice.

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[4] Vineberg: N. Y. Med. Record, 1908, Vol. 74, p. 554.
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[7] Treub: L'Obstetrique 1908, N. S., Vol. i, p. 515.

Clinical Department.

LYMPHATIC LEUKAEMIA IN ACUTE INFECTION, AFTER REMOVAL OF THE SPLEEN.

BY JAMES MARSH JACKSON, M.D., BOSTON,

AND

WILLIAM DAVID SMITH, M.D., BOSTON.

A young man, a college student of twenty-one years, American.

F. H. Not remarkable.

P. H. Enlarged cervical glands removed in childhood. Typhoid fever in 1907. Splenectomy in Switzerland in 1909 following rupture of the spleen in a coasting accident. Blood examination made in Switzerland a few weeks after splenectomy showed essentially a normal blood picture, *i.e.*:

Red count	4,600,000
White count	7,800
Hgb.	68 to 70%
Polynuclear neutrophiles	58%
Small lymphocytes	22.5%
Large lymphocytes	2.5%
Transitional cells	10%
Eosinophiles	6%
Mast cells	1%

P. I. May 31, 1913, patient seen complaining of fatigue, moderate headache, sore-throat and slight stiffness of the neck. Tonsils moderately swollen and together with entire pharynx were dry and reddened, but without membrane or exudate. Glands at angle of jaw on right were slightly enlarged, hard, discrete and a little tender.

Temperature 99.4. Pulse 78.

June 2, condition unchanged except that glands on right were decidedly larger and there was discomfort on swallowing.

Temperature 100. Pulse 70.

June 3, condition worse. Tonsils swollen, especially the right, which approached median line. Glands on right side of neck now crowded together into a hard mass almost level with jaw but without fluctuation or evidence of softening. On the left side of neck were several discrete enlarged glands, size of chestnuts.

Temperature 101.6. Pulse 72.

Up to this time the case had been considered an acute tonsillar infection with secondary involvement of the glands of neck. A white count and smear done at this time gave the following result:

White count	40,000
Polynuclear neutrophiles	5%
Lymphocytes, large	59%
Lymphocytes, small	36%
Mast cells	0%
Eosinophiles	0%

A stained smear submitted to an eminent pathologist in Boston was reported as follows:

"The smears of blood submitted to me today show appearances which I regard as those of beginning lymphatic leukaemia. The presence of some very atypical basophilic mononuclear cells makes me very suspicious that the case is one of so-called 'acute lymphatic leukaemia'."

June 4, not much change in neck glands; inguinal glands on both sides enlarged to size of beans; axillary and epitrochlear glands also slightly enlarged.

Temperature 101. Pulse 72.

June 5, patient seen in consultation by a well-known Boston internist who confirmed the findings and also demonstrated a small area of relative dullness in the right back in region of root of lung. He considered the case a probable lymphatic leukaemia but suggested the possibility of an absent spleen modifying the blood picture.

June 6, decided improvement in all symptoms, throat less sore, size of glands in neck definitely diminishing, temperature 99.2, pulse 68.

June 8, patient up and about, continued improvement; neck glands palpable but small.

Blood examination—

Red count	5,400,000
White count	32,600
Hgb.	90—95%
Polynuclear leucocytes	13%
Lymphocytes, large	70%
Lymphocytes, small	17%
Mast cells	less than ½%
Eosinophiles	0%

June 19, apparently well and leading a normal life.

White count	17,000
Polynuclear neutrophiles	16%
Lymphocytes, large	70%
Lymphocytes, small	13%
Mast cells	1%
Eosinophiles	0%

July 14, apparently perfectly well; no palpable glands; white count 10,800.

Aug. 23, 1913.

White count	7,000
Polynuclear neutrophiles	33%
Lymphocytes, large	43%
Lymphocytes, small	21%
Mast cells	½%
Eosinophiles	2.5%

*April 15, 1914.

No leucocytosis. Red cells normal. Platelets much increased in number.

Polynuclear neutrophiles	75%
Lymphocytes, large	6%
Lymphocytes, small	13%
Eosinophiles	6%

SUMMARY.

A young man a few weeks after removal of spleen in 1909 showed an essentially normal blood picture.

In 1913, he developed what seemed clinically an acute tonsillar infection; this was quickly followed by marked enlargement of glands of neck and moderate general glandular enlargement involving axillary, inguinal and epitrochlear glands.

This situation was accompanied by a blood picture so typically that of lymphatic leukaemia that no other diagnosis seemed possible.

After a week of sore-throat, general malaise and moderate elevation of temperature the symptoms abated and a normal convalescence as from an acute infection ensued.

Blood examinations done from time to time showed a gradual diminution in the white count and a change in the blood picture from that of a typical lymphatic leukaemia on June 3, 1913, to an approximately normal picture on Aug. 23, 1913 and a normal picture on April 15, 1914.

* This examination was made by Dr. Willard S. Parker.

SUB-MUCOUS RESECTION AS A MEANS OF OBLITERATING SUPERFICIAL BLOOD VESSELS.

By Joseph Prenn, M.D., Boston.

In the *Laryngoscope* of October, 1914, Dr. John A. Thompson, in his article "Uncommon Case of Nasal Hemorrhage," remarks that "the unusual feature was the method of cure by sub-mucous resection."

In the summer of 1914, at the out-patient department of the Boston City Hospital, a sub-mucous resection was done with the same object in view,—that of curing a nasal hemorrhage. The theory upon which this operation was based was, that after taking out the cartilage of the septum a new circulation for the fibrous tissue formation of the septum would have to be established. The endothelial cells of the existing capillaries would have to multiply to form new blood vessels and the current directed inward. The mucosa then will get the amount of blood supply needed for its existence, but not too much to squander. (The increase of the flow of blood to one part of the body, while at the same time diminishing it in another part of the body, goes on in the human economy physiologically as, for instance, during the process of digestion). The result justified the theory.

The patient in question was plethoric. The mucous membrane of the septum was congested. Superficial blood vessels and many bleeding points were present. He also had a vomerian ridge on the bleeding side, not wholly obstructive, but undoubtedly increasing the congestion.

Bleeding during the operation was rather more than usual. (No novocaine with suprarenalin infiltration was used). When the patient was examined at the end of a few weeks the septum was straight, the congestion of the mucosa was all gone, and no bleeding points or superficial blood vessels were to be seen over the operated area. Whether it is advisable to operate during the congested stage, or to wait until the congestion is over, depends upon the case. This case is reported by courtesy of the throat department, Boston City Hospital.

Another case was that of a patient coming to the office with the usual history of frequent nasal catarrh, nasal obstruction, dryness of throat, occasional nose bleed. The tip of the nose was red for the last two years, and the patient, a boy of twenty-one, of good habits, wanted to know whether the latter could be helped.

Examination showed sub-acute rhinitis, mucopurulent discharge along the floor of the nose, not pointing to any of the sinuses. The mucous membrane over the cartilaginous part of the septum showed radiating blood vessels on one side, slight anterior deviation with basal spurs on either side, bathed in pus, touching the inferior turbinates, and would not admit a probe. Local application of protargol was used and alkaline spray was prescribed. Operation was advised in about a week, believing that it would also do away with the congestion of the tip. The latter belief was based upon the following consideration. The redness of the lobule of the nose, when brought about by inflammatory conditions of the nasal mucosa (and that is usually the case), is due to the existing anastomosis between the blood vessels and the plexus of the skin of the tip of the nose. It stands to reason then, that should we cut the anastomosis at the muco-cutaneous junction, further congestion would be stopped, and if we will allow the cut to heal by "second intention," more blood will be necessary to granulate the surface, and the congestion ought to be entirely relieved. That is apparently what happened in this case. The redness of the tip disappeared the second day after the operation, and remained so. No superficial blood vessels of the mucosa are to be seen. The septum is straight.

In order to cut the anastomosis at all points, two incisions about a half an inch in length, at about right angles to the classical vertical incision were made, one at the floor, and the other at the roof of the nose so that they formed a flap. The flap was not sutured, but simply put in place to prevent healing by "first intention."

N.B. The difference between "first" and "second intention" as used in this article is not as marked as in other parts of surgery, for in either case, we are dealing here with linear incisions.

Medical Progress.

PROGRESS IN TUBERCULOSIS.

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and

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The literature on tuberculosis is so enormous, and the work that has been done during the last few years covers such an immense field, that a review of this subject must perforce confine itself to the barest summary of the most striking features. It should also be remembered that there is sure to be a wide difference of opinion as to what are the more important articles and points which deserve comment. We therefore state in the beginning that in this review special attention will be paid to the clinical and practical side of this subject and to those features which we believe will be of help to the medical profession as a whole and not merely to one small group.

Diagnosis. Progress in the early diagnosis of pulmonary tuberculosis or in the diagnosis of early pulmonary tuberculosis seems to have been steady though slow during the past few years. In the field of tuberculosis in infancy and childhood, especially in the recognition of bronchial gland tuberculosis, much work has been done and distinct progress made. Of great importance in this regard is the fact that the difference between tuberculous *infection* and tuberculous *disease* is more clearly recognized. Attention has been called to this by Pritchard,[1] Hawes,[2] and Bailey.[3] In bronchial gland tuberculosis the x-ray has its greatest field of usefulness. Crookshank[4] strongly urges that "the general practitioner should be encouraged to recognize early enlargement of the tracheo-bronchial glands with no lesser zest than would apply to the diagnosis of the secondary symptoms of syphilis." "It is certain that as many children suffer at one time or another from lodgment of tubercle bacilli in this or that group of glands as from measles or from chickenpox." "The care of the child is the root of the problem in dealing with tuberculosis." In diagnosing bronchial gland tuberculosis the value of "d'Espine's sign" as evidence of enlarged, *but not necessarily tuberculous glands* has been wisely emphasized by many. Likewise, in X-ray work, it has been shown that enlarged glands at the lung roots may be due to many other infections aside from tuberculous. These are most important points.

Lucas[5] presents good diagrams showing the relation of bronchial glands to the bronchi and urges further study of this form of tuberculosis. Treatment of these early cases of infection brings excellent results; if there is a delay until more striking evidence of disease is present, the chances of recovery are too often gone. Lucas gives a most instructive symptom-complex of tuberculosis in children which should be read by every physician. It is of interest to compare this with a similar symptom-complex published in the 1913 report of the Massachusetts Tuberculosis Commission.

In adult disease, the X-ray workers are as enthusiastic as ever, declaring that by means of the X-ray lesions can be discovered in the lungs long before they can be recognized by clinical investigation. These are the words of enthusiasts however. The majority of the profession whose opinion is of value in this line, take the more conservative view that while the X-ray is a useful adjunct and should be made a part of a routine clinical investigation, it should never replace clinical methods. Moore[6] states that "the *gross* lesions of pulmonary tuberculosis give characteristic appearances on the radiograph," but that in "the border-line cases the Roentgen ray cannot determine the activity of a tuberculous process."

Claypole[7] describes human streptotrichosis as a cause of error in diagnosis and is of the opinion that it is commoner than is supposed to be the case. Lee[8] presents in detail several cases of this type. Davis[9] describes the lesions of nocardia and states that they "clinically are not ordinarily distinguished from pulmonary tuberculosis." L. Brown[10] in a most interesting paper discusses errors in diagnosis of pulmonary tuberculosis. Among other conditions which may be mistaken for tuberculosis he describes cases of Hodgkin's disease, malignant tumors, syphilis and cardiac disease.

Ewart[11] describes "Perez' sign"—motor joint crackles—as a possible source of confusion in diagnosis. Hawes[12] has confirmed this point on a large number of patients and has taken up as well the part played by muscle sounds, tendon or bursal sounds, and atelectasis in addition to motor joint crackles. He concludes that only muscle sounds and motor joint crackles are real sources of error, and urges that in all doubtful cases the patient be made "to go through the motions of breathing" without taking any air into the lungs through mouth or nose, in order to decide whether the sounds heard are râles or are due to extraneous causes.

In regard to specific diagnosis, much work has been done but little real progress made. In children 5 years old or under, a positive skin tuberculin reaction is recognized to be of the greatest value as pointing to a tuberculous infection; in adults, only a positive subcutaneous tuberculin test performed by experts with a *local* as well as as a *general* reaction is of value. Fildes,[13] Radcliffe, and McIntosh, Pringsheim[14] and others, have discussed this subject at length.

The various concentration methods of sputum examination by anti-formin and in other ways, have a definite place in sanatoria and other institutions. As a means of diagnosis for the general practitioner, there are hardly available.

On the whole, the medical profession seems to be slowly but surely learning that it is not by any specific tuberculin reaction, X-ray, etc., but by a careful and painstaking study of the patient's history, occupation, habits, constitutional and local signs and symptoms, that the diagnosis of early pulmonary tuberculosis can be made.

Prognosis.—Progress in estimating the patient's chances in the future has consisted chiefly in relegating to their proper places various tests which at first were thought to be of great value in prognosis. The study of the leucocytes, according to Arneth[15] with the shifting of the nuclear picture to the left or the right attracted undue attention. While in certain cases it gives valuable evidence, the technique is far too difficult, the process too long, and the chances of individual error too great to make it a factor of any importance in prognosis. Likewise with regard to the diazo and urochromagen reactions, final results have not shown these tests to be of real help. On the other hand it seems to be accepted that a gradual decrease in the number of bacilli in the sputum with particular reference to the appearance of degenerative forms, etc., is of some value providing, of course, that the work is done by one qualified to judge. Kirchen-

stein[16] from Spengler's private laboratory at Davos writes interestingly on this subject. Brown[17] in a paper entitled, "When is a tuberculous patient cured?" concludes with the following sentences which merit grave consideration: "In conclusion, as a confession of faith, I may say that I believe that pulmonary tuberculosis is curable; that spontaneous healing of tuberculous infection occurs frequently, that healing of clinical tuberculosis may, but rarely does, occur; that permanent arrest is the most frequent termination of the disease in those who are later able to follow their usual occupations; that temporary arrest of longer or shorter duration occurs in all except the acute cases; and that continually progressive disease follows only upon several temporary arrests."

This is a sound and sane summary of "prognosis" in pulmonary tuberculosis. Fishberg[18] and others, however, have written in the more optimistic view calling attention to the fact that while the frequency of tuberculosis is not decreasing, its power to kill is slowly but steadily diminishing.

Treatment.—A consideration of progress in the treatment of pulmonary and non-pulmonary tuberculosis may naturally be divided as follows:

1. Is sanatorium treatment worth while?
2. Artificial pneumothorax and its value.
3. Tuberculin and its value in treatment.
4. Sunlight treatment—heliotherapy.

Is sanatorium treatment worth while?

Much has been written pro and con on this subject. Wilkinson[19] of England is the strongest upholder of the negative. He believes so firmly in the curative power of tuberculin that he sees no possible use in sanatorium or any other form of treatment except that of tuberculin. His theories are yet to be proved, however. The great majority of writers, while of the opinion that much can be done to promote the efficiency of sanatorium treatment, and that it is still far from perfect, still believe that it offers the greatest opportunity for the cure or arrest of the disease that we have at our disposal. Bailey[20] and MacCorison describe a scheme for promoting the efficiency of sanatoria by dividing patients into a "sanatorium" and a "hospital" class. In the former are placed all those patients who are really trying to get well and who coöperate with their physicians. To the latter class belong those who merely regard the sanatorium as a first-class boarding house. That this system is capable of bringing about excellent results has been clearly demonstrated in Massachusetts Sanatoria. Hawes[21] describes what is done in Massachusetts to keep the patient well after leaving the sanatorium, and the methods whereby coöperation of local forces, public and private, may be obtained. Bolduan[22] of New York, in a distinctly pessimistic view, speaks of the futility of taking patients out of bad surroundings to send them to a sanatorium and then allowing them to return to the same bad conditions at home. Goldstein,[23] writing also from the New York point of view, urges that special factories or other specially conducted places of employment be created for giving suitable employment to post-sanatorium cases. Numberless other papers have been written on this subject. The general feeling seems to be that the sanatorium is worth while; that it does play a large part in our tuberculosis campaign, but that to make it occupy the place it really should hold, the treatment of the patient should begin long before he enters and long after he leaves the institution. This, as Pottenger[24] clearly points out, means the prevention, detection, and treatment of tuberculous infection in childhood and the supervision of the consumptive after leaving the sanatorium.

Artificial Pneumothorax and Its Value. The medical profession seems to have reached a saner point of view in regard to the value of this method of treatment than was the case a year ago. Saugman[25] states as his impression after seven years' treatment of over 200 cases, that during the first six months this treatment should be carried on only in a sanatorium or hospital and that "only in exceptional instances should pneumothorax be used on patients in their homes." Balboni[26] states that "the patient ought to follow sanatorium régime treatment at the same time." Unfortunately, few if any of his patients were actually in a sanatorium while under treatment, but were living at home, many of them in the crowded parts of the city. Balboni further states that "the patient should be fully informed that the treatment is long, tedious troublesome, and expensive, and not devoid of dangers." Lyon[27] describes results as obtained at the Rutland State Sanatorium in Massachusetts. Floyd[28] of Boston describes the class of cases suitable for this treatment. The general feeling is that this treatment in skilled hands, under careful supervision in a sanatorium or hospital, may do a great deal of good in a small group of selected cases who do not respond to other methods of treatment.

Tuberculin and Its Value in Treatment. As stated above, Wilkinson[29] of England is the foremost in the ranks of those who believe tuberculin will cure all forms of pulmonary tuberculosis. His claims are so extravagant, however, as to lose nearly all value. Bennett,[30] in a most useful little book urges great conservatism in the use of tuberculin in pulmonary disease. The opinion of the majority of those able to judge is that tuberculin, like artificial pneumothorax, may do good in selected cases, particularly those without fever, and who have reached a stationary condition; but that it should only be given by those skilled in its use and when the patient is under constant medical supervision. No comment is needed on the Friedman episode, which is now a thing of the past.

Sunlight Treatment or Heliotherapy.—That direct sunlight has a remarkably beneficial effect

on all forms of tuberculosis is a fact that has not been sufficiently impressed on the minds of the medical profession. The work of Rollier[31] in Leysin, France, which had not attracted attention until very recently, is now a subject of almost universal comment and discussion. During the past year, not only Dr. Rollier's own description of his work, but the articles by Hinsdale[32] and others have made the profession realize the importance of this hitherto neglected method of treatment. Patients are exposed to direct sunlight little by little, first beginning with the feet below the knees, for five minutes five times a day, and then increasing so that finally the entire body is bare for several hours at a time. This process of gradually exposing the skin to the sun must be carried on with care or else bad effects may follow. The results on the local process as well as on the patient's general condition are remarkable; were it not for actual photographs, they would scarcely be believed. Such treatment in modified form is now being carried on in this country, especially at Buffalo, New York, and at the Westfield State Sanatorium in Massachusetts. Heliotherapy is such a cheap form of treatment and under anything like adequate supervision is capable of bringing about such good results that its use is bound to become far more widespread. It would be an excellent thing if every physician were to read either Rollier's original papers or Hinsdale's description of Rollier's work.

Bovine Tuberculosis. The importance of the campaign for clean milk in the prevention of various forms of tuberculosis is becoming more and more recognized. Mitchell[33] states that "cows' milk containing bovine tubercle bacilli is clearly the cause of 90% of the cases of tuberculous cervical glands in infants and children." He refers particularly to the district around Edinburgh where tuberculosis in cattle seems to be particularly common. Although German observers do not confirm Mitchell's or Fraser's[34] figures, placing the percentage of bovine infection so very high, yet they agree that bovine tuberculosis is a much more important factor than was formerly considered to be the case. The teeth and faucial tonsils are the most important channels of infection in these cases.

Laryngeal Tuberculosis. Much has been written on laryngeal tuberculosis and its treatment. The general feeling in this country that this was secondary to a pulmonary process, and that its progress toward healing depended almost entirely on that of the patient himself, led to a somewhat over conservative attitude toward this condition and a tendency to let it entirely alone, except for mild palliative measures. At present this feeling seems to be changing somewhat and a tendency toward more radical measures to be taking its place. St. Clair Thompson[35] takes the conservative standpoint that "sanatorium treatment is at present the first and most valuable method we have for arresting laryngeal tuberculosis," and that "local measures are much more promising under sanatorium treatment." This point of view, which places sanatorium treatment first, but which does not do away with local treatment, radically operative or otherwise, seems eminently sane and sound.

Non-Pulmonary or "Surgical" Tuberculosis. Of all forms of non-pulmonary tuberculosis, that of the cervical glands and of the genito-urinary tract has received the most attention. There has been a marked change in the attitude of most surgeons as to the treatment of tuberculous cervical adenitis. While there are still a few, notably Dowd[36] of New York, Fraser of Philadelphia, Ladd[37] of Boston, and others, who still claim that the so-called "radical operation for the removal of tuberculous cervical glands" is the best and safest course in all cases, the vast majority of the medical profession are now apt to look upon an operation in those cases "as an incident great or small as the case may be, in a course of treatment the most important part of which comes before and after operation." Hastings[38] of New York, Rollier[39] of France, Chadwick,[40] Hawes,[41] and numberless others, have clearly demonstrated that in most cases of tuberculous cervical adenitis, by the removal of diseased tonsils and the cleaning up or removal of decayed teeth, and by proper hygienic constitutional treatment with food, fresh air, heliotherapy, tuberculin, and other measures, an operation is sometimes rendered absolutely unnecessary, and often reduced to some simple measure, such as opening and draining a small abscess cavity. In many cases, as shown by Hastings and Hawes, tuberculin alone seems to cause the glands to disappear, while the results obtained by Rollier and those who have tried this method of treatment show how unnecessary and useless the radical operation may be.

Genito-Urinary Tuberculosis. In genito-urinary tuberculosis, Barney[42] has done a valuable piece of work in calling attention to the seriousness of tuberculous epididymitis and by showing in how large a percentage of cases even under excellent treatment this condition is followed by generalized tuberculosis of the genito-urinary tract. O'Neil [43] and Hawes have urged the use of hygienic measures and of tuberculin in all forms of tuberculosis of this region, before, after, and sometimes in place of, operative treatment.

Economic and Social Aspects of the Tuberculosis Problems. Progress in this direction has been along lines laid down sometime in the past. Chief among studies in the economic and social aspects of this disease are those which call attention to the dangers of open cases of tuberculosis and the need of preventing this source of infection if progress is to be made. Lampson[44] presents an interesting study of the spread of tuberculosis in tuberculous families showing that "67% of the individuals of these families (in which there was an open case of tuberculosis) excluding the centre cases, show evidence of tuberculous infection." The fact that his chief criterion of tuberculous infection was the von

Pirquet skin reaction, tends to detract from the force of his statement. MacCorison and Burns[45] of the North Reading State Sanatorium in Massachusetts, in similar fashion, have made a careful study of a large number of the families from which their patients came, with equally striking results. Their positive cases were ones of clinical tuberculosis, however, and not those with a positive skin tuberculin reaction only. Hawes[46] has carried this work still further and has shown the immense amount of good that can be done by following up patients discharged from sanatoria and by introducing a system whereby such patients can be kept under proper supervision and the members of their families examined.

CONCLUSION.

In conclusion it seems to us that in the diagnosis of adult tuberculosis, progress has been made not along any one line, such as the x-ray, tuberculin, etc., but by a realization that careful and detailed study of the patient, his history, constitutional signs and symptoms, as well as his lungs, will enable us to make an early diagnosis of this disease.

Bronchial gland tuberculosis in childhood, and its diagnosis with a clear conception of the symptom-complex of childhood tuberculosis, is a subject the importance of which cannot be overestimated. The increasing interest in condition by the medical profession is alone a distinct step in advance.

In treatment, the use of sunlight in all forms of tuberculosis is the great step forwards. Artificial pneumothorax has assumed its true position as an agent of value in a certain small group of cases; tuberculin is looked upon more conservatively in pulmonary disease and as an agent of great value in non-pulmonary tuberculosis.

From the economic and social side it is gratifying to note that childhood infection and its prevention and also the supervision of the consumptive *before* and *after* he goes to a sanatorium have been given the important consideration that they deserve.

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Reports of Societies.

THE PHILADELPHIA COUNTY MEDICAL SOCIETY.

MEETING OF WEDNESDAY, NOV. 25, 1914, AT 8.30 P.M. THE PRESIDENT, DR. WILLIAM DUFFIELD ROBINSON, IN THE CHAIR.

SYMPOSIUM: THE PREVENTION OF DEFORMITIES.

SCHOOL LIFE AND THE ONSET OF DEFORMITIES.

DR. WALTER S. CORNELL, Director Division of Medical Inspection of Public Schools: An article appearing in a recent issue of *The Weekly Roster* called attention to the importance of orthopedic defects from a standpoint not usually considered by the physician. The broad viewpoint outlined we would do well as physicians to consider: "Deformity is to be seen everywhere. Its presence is deplorable as it tells in very loud words of the physical and emotional suffering of the afflicted and the terrible handicap they are doomed to carry through life. It is indeed to be deplored that the persons so afflicted in very large proportion could be, but were not,

treated in early life so as to have been cured or very greatly improved. The distress and resentment of many entering adult life, when they contemplate what might have been done for them, is not pleasant to consider."

Deformities considered in connection with school life are almost entirely those of the spine, comprising principally stoop shoulders and lateral curvature. We need only to mention the intimate relation of a contracted chest to tuberculosis, general malnutrition and the prevalence of lateral curvature to appreciate the major relative importance of these two physical defects to the entire remaining field of orthopedics. It is the consideration of physical defects in their association with others that forms the most basic principle of medicine in the study of growing children. Stoop shoulders and flat chest are in this paper considered as one condition. The causes of stoop shoulders are many. Workers in tuberculosis hospitals first noted the close association of pulmonary tuberculosis with the condition and provided nose and throat dispensaries that fresh air might be obtained by these patients through their noses as well as through house windows. The causal relation of low nerve tone and malnutrition, of defective eye-sight and hearing, and of low neuro-muscular tone has also been recognized. Most cases of lateral curvature are primary in causation and due to fatigue of the back muscles from over-long school periods. Our school curriculum should be amended to provide frequent periods of bodily freedom and relief. It will be remembered that "Ben Hur" asked to row alternately on the starboard and port sides of the galley, upon noticing the one-sided development of his fellow galley slaves. The routine medical inspection of children will prevent a certain proportion of the stoop shoulders and scoliosis by the correction of myopia and astigmatism, removal of nasal obstruction and treatment of catarrhal deafness. The great attack must be made from the standpoint of personal hygiene, the standpoint of direct corrective exercises. The system of corrective exercises just introduced into the Philadelphia schools is under the direction of the Department of Physical Education, which coöperates with the Department of School Medical Inspection. Special exercises are given these children in the schools and to be performed at home. I would make an earnest plea for the greater emphasis by orthopedists upon the common defects rather than upon new operations for serious and crippling deformities; a plea to the medical profession for the recognition of the symptom complexes in developing children; a plea for the medical care of patients upon the basis of hygienic living, with the courage to charge for advice which prevents disease; a plea for the better understanding of the intimate relationship of defects of the teeth to defects of the nose and throat; and finally, a plea for the recognition by medical colleges of the necessity of instruction to students upon the diseases and defects of children of school age.

TUBERCULOSIS IN RELATION TO DEFORMITIES AND THEIR PREVENTION.

DR. HENRY LING TAYLOR, New York City: Tuberculosis of the bones and joints is one of the commonest causes of crippling deformities which are a grave personal handicap and a serious economic loss to the community. In order to prevent the annual increase in the number of incapables from this source, we must first direct our preventive measures against the dissemination of tuberculosis:—

1. By official inspection of herds and milk products, with the view of stamping out bovine tuberculosis and preventing the distribution of contaminated dairy products.
2. By segregation of the distribution of human tubercle bacilli and the disinfection of their sputa.
3. By the invigoration of children and youths and adults through a more hygienic life.

When a tuberculous joint is present we must make an early and accurate diagnosis and institute effectual treatment as early as possible, continuing it until the disease is quiescent. During this time the joint must be fixed in its most useful position so that when the disease is arrested the limb may still be serviceable, even if joint motion is diminished or absent. Severe terminal deformities of the limb may be corrected nearly always by safe and comparatively simple surgical operations and should be so corrected much oftener than they are. Without having exact figures, I do not think joint tuberculosis is quite as common in New York, and probably in other large towns in this region as formerly. We do not see so many severely deformed people on the streets. Whatever difference of opinion there may be about the bovine infection of tuberculosis there is no difference in opinion of the practical results of having children in close companionship with advanced consumptives. Time and time again I have found cases in the clinic in which the child was sleeping in an unventilated room with the father in an advanced stage of tuberculosis and three and four cases of tuberculous infection in the same family. These were not inherited cases, for we have seen the same thing in those of the same household but not related. In one case we found that the nurse of a baby was tuberculous. Failure in early and accurate diagnosis of deformity in bone and joint tuberculosis is as common as it is disastrous. Probably one-half of the fixed deformities are due to mistaken diagnosis or no diagnosis at all. The early diagnosis is not always easy even for specialists. The term "rheumatism" is one which is rapidly passing out of use in scientific language. "Rheumatism" means infection and the source should be ascertained. There should be willingness to examine thoroughly cases which seem to be trivial. The patient should be built up by general hygiene as in pulmonary tuberculosis, and probably a systematic application of sunlight to the naked skin, according to an exact and simple technic, is the most important advance in the last ten years in the treatment of surgical tuberculosis. In our fresh air home on Long Island we have just finished our eighth year and the average gain in children kept out in the open air has been seven pounds per summer per child for seven years. In the last year we have used direct sunlight treatment, putting the children in the sunlight for six hours a day without a stitch on them and the results have justified the belief that this treatment is probably the most important advance in the treatment of joint tuberculosis in the last ten years. In the local treatment of tuberculous joints, with fixation properly applied, you will have little need of traction. The limitation of activity is extremely important. If the simple principle is observed of fixing the joint in the most useful posture more than half of the bad deformities will be prevented. We operate freely in adults and sparingly in children.

THE STATUS OF THE GENERAL PRACTITIONER IN THE PREVENTION AND CORRECTION OF DEFORMITIES.

DR. H. AUGUSTUS WILSON: Your committee has deemed it desirable to consider the status of the general practitioner in the prevention and correction of deformity. The orthopedic surgeon, being often the court of last resort in cases of progressive bodily deformity, is in a position to review all of the past history of the patient. One constantly hears that the family physician has given assurance that the child would outgrow its bow-legs; that the early pain of tuberculous bone disease was growing pains; that non-tuberculous processes were rheumatism; that normal feet of children required arch supporters. The general practitioner in the country differs widely from the general practitioner in the city. The former is compelled, and the latter elects, to prescribe for all conditions. In city life there appear to be three types of the general practitioner: (1) The self-contained physician who elects to be the medical autocrat; (2) the distributor to specialists; (3) the coöperator. The self-contained autocrat attempts to emulate the country doctor without the necessity of so doing. The increasing specialization has become a necessity, because of the disasters often caused by the self-contained autocrat. The distributing general practitioner is usually a skilful diagnostician with insufficient confidence in his own knowledge of therapeutic measures. He selects a specialist to whom the patient is sent with instructions to remain under his care for the specific lesion. It is difficult to determine the divided condition of the patient affected with three or more so-called special diseases, as seen in the case of a young girl of sixteen who within a period of four months was elaborately studied by ten different specialists. The cooperating general practitioner is the highest type of all, for he combines the best and avoids the worst features of the others. It has been my experience that the best ultimate results have been obtained when I remained in coöperation with the general practitioner. In the great majority of conditions ultimately becoming orthopedic problems, the onset and early progress are so inconspicuous that in the beginning they defy accurate diagnosis. It would seem that the general practitioner has the largest opportunity to determine the relative importance of the various etiological factors in scoliosis in school children. In the early history of bone tuberculosis there is a period of uncertainty when the symptoms are attributed to other causes. The referred pains are usually classed as "rheumatism," a word which should be stricken from our vocabulary. The etiological importance of the eruptive fevers in the producing of joint affections; of typhoid fever in post-typhoid dislocations; of often remote gonorrhea in subsequent arthritis; of various factors in numerous forms of backache; and of pyorrhea in a vast variety of non-tuberculous joint affections, as well as the expedience of employing passive motion in treatment, is a problem worthy of close attention. The general practitioner has a most difficult task when he encounters congenital deformities. Whether he knows it or not, he is confronted with Wolf's law that all prolonged alteration of the function of any part of the body, either congenital or acquired, is surely followed by anatomical changes. He must analyze carefully the many conflicting statements regarding the advisability of immediate correction or of postponement. After all the various problem-students have made their reports, it is often the province of the family physician to decide, for the family, upon the actual diagnosis and to direct the treatment. The various laboratory aids to diagnosis, when combined with an analysis of clinical findings, often materially assist in diagnosis. With the essential clinical phenomena as a basis, doubt can often be changed to certainty by the employment of radiography, blood tests, urinary analyses, and bacteriological research, but I know of nothing more confusing than a radiogram, unless it be the report of a radiographer who attempts to make a diagnosis without accurate clinical data. I believe there is entirely too much hastily conceived and misapplied treatment. The essential ingredient of any therapeutic measure should be skilful diagnosis. This is accomplished only by devoting time and discernment to a skilful weighing of all obtainable facts.

DISCUSSION.

DR. R. TAIT MCKENZIE: To the various factors bearing upon deformities I would add, the design of clothing, and the construction of furniture. I shall confine my remarks, however, to the subject of postural deformities that are non-tubercular. As soon as we assume the upright position the pressure of the whole body weight coming upon the feet gives a tendency to their eversion, thus threatening deformity of the arch. The next point at which the bony structure may yield is at the knee, and from the slightly bowed leg there may be the condition of knock-knee. With an exaggeration of the curve which may occur at the lower part of the back there is a compensating curve in the upper part of the back. The ribs are carried downward, the chest is flattened and the abdomen protrudes, giving the typical condition of bad posture with the consequent disarrangement of the contents of the upper zone of the abdomen and the long train of symptoms familiar to all. Many faulty positions are acquired in the school room where the child has to sit still for long periods of time. City conditions are also at fault, for the child has not the opportunity for play which gives the best development. This, however, is being corrected by the establishment of playgrounds. Occupation is another factor in etiology. In many occupations we are unable properly to use our muscular system. It is not surprising that we find motormen and hospital nurses flat-footed. The underlying principle in all these deformities is fatigue in some form. Much can be done in the schoolroom by breaking up the long periods of study by short periods of rest and exercise, and by tests in posture. It has been found that one of the chief causes of the stooping of children has been in the structure of the clothing by which a constant pressure is felt on the back of the neck. This is remedied by changing the cut of the garment.

DR. JAMES K. YOUNG: Three sources of infection in tubercular children are (1) cows' milk; (2) nurses and attendants; (3) infected rooms. The faucial tonsils seem to be the chief channels of infection. My clinical observation leads me to believe that suppuration does not so frequently occur in these instances of bovine infection as in the human. The importance of the source of infection being that of nurses and attendants has so impressed Mr. Thomas A. Edison that he has personally supervised a photo-play entitled the "Temple of Moloch," which has for its climax the discovery of the infection of two children by a tubercular nursemaid.

The photo-play is to be used by the Tuberculosis Commission in its warfare against the white plague.

The occupations which seem to be most suitable are not always the best adapted to or selected by the deformed person. Music, especially orchestral, wireless telegraphy and the telephone have afforded valuable means of livelihood. School teaching is a suitable occupation for those in whom the tubercular process has been arrested.

DR. CORNELL, closing: I have learned much tonight and shall urge upon our school authorities the importance of vocational training of crippled children and of the provision of ample sunlight in our school buildings. The psychology of crippling deformity is an aspect of the problem totally different from that of the mechanical treatment and claims our best endeavor. I would especially plead for treatment by the medical profession of crippling deformities from the preventive standpoint.

DR. TAYLOR, closing: The other papers have brought out much of importance and of practical suggestion. It is gratifying to know of the advance in postural work outlined by Dr. McKenzie. The subject of occupations for cripples I am especially interested in. I would not be misunderstood regarding the value of the x-ray. What I said was that in the early cases the x-ray frequently showed nothing. I do not wish to be understood as believing that you cannot get good results by traction, but, as I have said, if you will handle your case with fixation, properly applied, you will have little need of traction, and a little motion is worse than a stiff joint.

Book Reviews.

Practical Therapeutics. By DANIEL M. HOYT, M.D., formerly Instructor in Therapeutics, University of Pennsylvania, etc. Second edition, revised and rewritten. pp. 426. St. Louis: C. V. Mosby Company. 1914.

This volume includes in its discussion materia medica and prescription writing, together with a description of the most important new and non-official remedies accepted by the Council on Pharmacy and Chemistry of the American Medical Association. This second edition has been revised, as is peculiarly necessary in dealing with the general subject of drug therapeutics. It has been improved in various ways, as, for example, through the brief description of vaccine therapy, and practical suggestions regarding office dispensing. The subject matter is conveniently arranged under general headings descriptive of the use of various therapeutic agents. Throughout it is eminently practical, clearly written, and admirably arranged for reference. An extensive appendix of upwards of a hundred pages describes new and non-official remedies, which are coming to take an important place in therapeutics. An excellent index of drugs, which is really much more than an index in the information it gives, concludes this generally satisfactory volume.

Diseases of the Skin, Including the Acute Eruptive Fevers. By FRANK CROZER KNOWLES, M.D., Instructor in Dermatology in the University of Pennsylvania; Clinical Professor of Dermatology, Women's Medical College of Pennsylvania. Octavo, 546 pages, with 199 engravings and 14 plates. Philadelphia and New York: Lea and Febiger. 1914.

This volume adds one more to the many published in recent years, devoted to the convenience of the student and general practitioner of medicine. In it the writer has tried to cover all of the eruptions that come on the skin and the adjacent mucous membranes, and includes the exanthemata. In the domain of therapeutics the author confines his recommendations chiefly to remedies that have been successful in his own hands, a wise resolve in a book addressed solely to students and general practitioners. Syphilis, pellagra, and tropical diseases are dealt with at greater or lesser length. The illustrations are numerous and remarkably good. Dr. Knowles is to be congratulated on producing a praiseworthy book in a field already pretty well occupied by successful predecessors.

A Text-Book of Pathology. With an Introductory Section on Post-Mortem Examinations and the Methods of Preserving and Examining Diseased Tissues. By FRANCIS DELAFIELD, M.D., and T. MITCHELL PRUDDEN, M.D. Revised with the coöperation of FRANCIS CARTER WOOD, M.D. Tenth edition. Completely revised. 8vo., 1144 pages, illustrated by 14 full-page plates in black and colors, and by 694 line and half-tone cuts. New York: Willliam Wood and Company. 1914.

This edition is slightly improved over previous editions. It is possible in this, as in any text-book, to point out numerous omissions, some errors and instances of undue emphasis placed upon certain subjects. The text-book has been for many years one of the standards in pathology and it has more than held its own with succeeding editions. This edition is brought thoroughly up to date and considerably improved by an increased number of references and illustrations. The book as a whole is so excellent that it does not seem fair in a short review to call attention to the few minor deficiencies which can be found.

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BIOLOGIC ASPECTS OF EARLY MARRIAGE.

IN the July, 1914, issue of the *Journal of Heredity,* the official organ of the American Genetic Association, was published a brief paper by Casper L. Redfield, of Chicago, on the "Results of Early Marriage," raising the question whether it leads to the production of desirable children and offering a reward of $200 for the reporting of human cases "where rapid breeding led to good results from an intellectual point of view." The reward, which was deposited with the Association in April, 1914, has recently been returned to the donor, no one having produced evidence of the kind required.

In an analysis of a large amount of statistics, Mr. Redfield has been able to find no person of eminence produced among families in which there are more than three generations in a century. In his conclusions from this, he says:—

"If the majority of people are produced by breeding faster than three generations to the century, and yet no very eminent person was ever produced within that range, the conclusion is obvious. In 33 states the legal age of marriages ranges from 15 to 19 years for boys, and from 13 to 17 for girls. In the same states there are many marriages at less than legal age which are considered valid unless objection be made. Such early marriages result in rapid generations, and continuous rapid generations lead to the production of mental and moral defectives."

In short, Mr. Redfield believes that the optimum conditions of human breeding would be reached by the production of the majority of children from parents of an average of not less than 33 1/3 years.

It seems that these conclusions rest on the basis of a possible common fallacy which underlies many eugenic and other arguments,—namely, the mistaking of cause for effect. It is not that early marriages, resulting in rapid generations, lead to the production of mental and moral defectives; but that individuals of the type tending to produce defectives are more likely to marry early, hastily, and unwisely than the more discreet individuals of higher type, who postpone marriage until they can achieve better pecuniary environmental conditions. Such conditions, in turn, often react favorably on the offspring, giving even the weaker children of older parents educational and hygienic advantages which enable them to surpass the physically stronger children of younger but poorer parents. Could similar advantages have surrounded the parents of higher type during an early marriage their output in quantity and quality of desirable children might have been much greater. In other words, it is not late breeding which secures intellectual or other superiority, but the accrued circumstantial advantages of environment which oftener surround late than early marriages.

Even if it be true that there are no persons of intellectual eminence among the offspring of families breeding faster than at the rate of three generations to the century, this does not prove that the breeding of good stock from younger marriages is not desirable. After all, the bulk of the world's work is and always must be done by persons not of intellectual eminence. Such people are needed only in moderate numbers as leaders. What is fully as essential, and what we are in far greater danger of losing, is a rank

and file of humanity made of the most healthy, vigorous physical fibre. Such individuals are most likely to be bred from parents during the decade of greatest reproductive energy, from 20 to 30. Desirable parents marrying at 20 and producing their children during these years would have an average age of 25 at the birth of desirable children, or four generations in a century. That this is not now the case is because of the economic conditions, which do not deter the rash persons of undesirable stock, but do deter the thoughtful individuals of higher type, from early marriage.

As a matter of fact, there is here a conflict, as in many other human relations, between two types or ideals of civilization, the racial and the individual. Doubtless the interests and advantages of the individual are best subserved by late marriage, leading to fewer offspring surrounded by a superior environment. This process, as the experience of history has shown, undoubtedly leads to the production of the highest individual types, but unfortunately it ultimately leads to family and race extinction. The racial ideal, on the other hand, aims at the production of the greatest number of individuals of a good type, though not of the highest, with early marriages surrounded by sufficiently good environment to ensure proper development and perpetuation of the type. Such a method inevitably involves sacrifice of individual advantages for the sake of guaranteeing race survival.

Probably the biologic desideratum for any race, or for the human family as a whole, is not slow, late breeding, which is only Malthusianism under another form, but the maintenance of a majority of physically superior individuals bred under good environment from parents during the third decade of life. Gradual improvement of this stock could be effected by encouraging early marriage of desirable parents, which would increase physical race efficiency not only directly, but indirectly by lessening the amount of venereal disease among the higher types. Intellectual leaders are bound always to occur as "sports" under any method of breeding. Of course such discussion is academic rather than practical, since these questions will ultimately be settled not by conscious but by spontaneous evolution. That human type, however, will probably in the long run survive and dominate which by means of early marriage can most effectively combine the racial with the individualistic ideal in civilization.

THE TREATMENT OF RUPTURED TUBAL PREGNANCY.

IN another column of this issue of the JOURNAL we publish a valuable study by Dr. Young, based on an analysis of sixty-two cases of ruptured tubal pregnancy occurring in the gynecologic service of the Boston City Hospital since 1902. The chief and most important conclusion derived by the author from this study is the undesirability of immediate operation in every case, a conclusion in which we most heartily concur with his judgment. Not many years ago it was the teaching of practically all surgical clinicians that every case of ruptured tubal pregnancy should be operated upon at sight, and doubtless many lives have been sacrificed to this well-intended but misplaced surgical zeal. As a matter of fact, it is exceedingly seldom that a patient dies of the first, or even the second hemorrhage following ruptured tubal pregnancy. It is only repeated hemorrhages, or injudicious intervention, which give the *coup de grâce* in most cases; and in not a few, as is well known, nature may even effect a spontaneous cure. The desirable time for operation in tubal rupture is not when the patient reaches the hospital exhausted by her journey and perhaps just at the close of a fresh hemorrhage, but after several hours of rest and warmth in bed, with judicious stimulation, when the operation can be done upon a patient with improving general condition, rather than at the moment of maximum depression. These facts were recognized by Robb in 1908 and their truth is reëxemplified with additional force in the present article by Dr. Young. There are, of course, cases in which immediate operation is desirable in the presence of signs of obviously progressive hemorrhage. These, however, are the desperate few; the majority benefit by a course of more moderate conservatism.

As to the type of operation to be preferred opinions differ. It seems, however, that with a clear diagnosis, the abdominal route is almost invariably to be preferred. Operation from below is an operation in the dark, without positively reliable control of hemorrhage and without opportunity to inspect and cleanse the peritoneal cavity.

In the differential diagnosis of tubal abortion from tubal rupture there are a few signs of value. In tubal abortion (the ovum being lodged near the fimbriated extremity of the tube), there is relatively little or no concomitant uterine

enlargement, the hemorrhage is less profuse and the abdominal symptoms less urgent than in tubal rupture. In tubal rupture not only are the hemorrhage and abdominal distress greater, but, the ovum being lodged nearer the proximal extremity of the tube, there is usually uterine enlargement corresponding with the duration of the pregnancy.

In the present series eight of the fifteen fatal cases are said to have had shock as a cause of death. Doubtless in some of these the shock was due primarily to injudiciously precipitate operation at a time of minimum resistance immediately after a hemorrhage. In some, however, it is probable that life might have been saved by the employment of transfusion, a procedure which has been applied to only a few of this series of cases. We cannot agree with Dr. Young in his attitude towards transfusion. Given a judicious selection of the time for operation, the recovery or death of a patient with ruptured tubal pregnancy will depend upon the amount of blood lost, the operative shock being in itself small and approximately the same in all cases. Where the hemorrhage has been so great as to portend death, a transfusion promptly done, under the anesthesia of the original operation, as soon as the source of bleeding has been controlled, will generally turn the scale, and, by replacing a considerable part of the blood lost, makes it possible for the patient to live. Salt solution, which merely replaces the volume of the circulation, is no adequate substitute for whole blood. It would seem that ruptured tubal pregnancy is preëminently a condition in which the beneficent procedure of transfusion is a most valuable life-saving measure. It is by no means indicated as a routine procedure, but when employed in critical, borderline, or even moderately exsanguinated cases, tends to expedite convalescence, and to lessen shock and liability to sepsis, even if it does not actually save a patient who otherwise would have died.

With judiciously conservative selection of the time for operation, with the employment of the abdominal route, and with the performance of transfusion in all cases of whose recovery any reasonable doubt is entertained, the mortality of ruptured tubal pregnancy should be diminished to an irreducible minimum.

NEW YORK'S NEW SANITARY CODE.

FOR some time past it has been felt by the New York City health department that a new sanitary code should be enacted, for, as Commissioner Goldwater expresses it, the code which has been in force for many years has been patched and padded from time to time, until it lacked continuity, coherence and clearness. Accordingly, an entirely new code has been adopted by the board of health, and this, while re-embodying the provisions of the old in simplified terms and in more logical arrangement, includes twenty new sections which are in large measure the result of recent observations and investigation, and which, it is believed, will effect a wider application of the principles of sanitation.

It has been asserted more than once that important legislative powers have been unwarrantedly seized by the small group of officials constituting the board of health, but Dr. Goldwater explains that these powers, and the responsibilities attending them, have not been seized at all, but, on the contrary, have been thrust upon the board by law, and been most reluctantly assumed. Always conscious of its grave responsibility, it has, in exercising the legislative powers conferred upon it, endeavored to fortify its position with authoritative opinion and advice, and for many years it has been the practice of the department, when considering new legislation to correspond with the advance of medical science, to call into counsel the leading members of the profession and to secure a consensus of expert opinion before taking action. In order to systematize consultations of this kind there was established some time since a medical advisory board, and among its present members are such men as Dr. H. M. Biggs, state commissioner of health, and Drs. A. Jacobi, Simon Flexner, William M. Polk, an T. Mitchel Prudden. It has been the aim of the present head of the department to make its legislative enactments an expression, not of the will of the three men composing the board of health, but of the civic ideals and the conscious will of the people themselves. Last year, for the first time, the department asked the systematic coöperation and counsel of laymen, as well as of medical men, and early in 1914 an advisory council consisting of 150 representative men and women was organized. One of the chief objects in establishing such a body was to bring into relation with the department representatives of those trades and

interests which, for one reason or another, fall under its supervision and are in daily contact with it; for it was felt that regulations affecting any industry or occupation should not be adopted except with the cognizance and under the advice of representatives of those regulated. The members of this new advisory council, as well as of the medical advisory board, have therefore participated in the revision of the sanitary code; so that, while the code represents finally the judgment of the three officials who voted upon it, it is based upon the research, experience and deliberation of a large body of qualified and interested citizens who were called to consider it carefully, section by section, before it was presented to the board of health for enactment. The death-rate in the city in 1914 was 13.4, the lowest yet recorded, and it is reasonable to allow that this excellent showing was due in some measure to the enforcement of the existing sanitary regulations. It is hoped by the department that by means of the additions which have now been made to these a still lower rate may be reached.

The new sanitary code is composed of eighteen articles, the first being devoted to definitions, while in the succeeding ones the contents are grouped under headings alphabetically arranged. For instance, the subject of one article is animals, and in this there are sections relating to the reporting of glanders and other contagious animal diseases, to the destruction of diseased animals, and to numerous other matters connected with animals, alive and dead. Some of the additions to the code are of special interest. With a view to the prevention of epidemics resulting from food contamination, it is now required that physicians, in reporting cases of typhoid, diphtheria, scarlet fever, epidemic dysentery, and septic sore throat, must state whether the patient is engaged in the handling of milk or other dairy products or is employed as a cook, kitchen helper or waiter. A new section prohibits the distribution from door to door of so-called samples of medicine intended for internal use, a method of advertising which has been quite extensively used to increase the sale of harmful nostrums, and particularly of those containing habit-forming drugs. In regard to the sale of patent and proprietary medicines it is prescribed that the ingredients entering into their composition shall be mentioned on the package or, as an alternative, that the names of such ingredients shall be filed with the health department. The employment in bakeries of persons suffering from communicable diseases is prohibited by a state law, and under the new code this rule is extended to include persons employed in all places where food or drink is "prepared, cooked, mixed, exposed, bottled, handled, manufactured, offered for sale, or sold." Another section specifies that in the manufacturing, handling and sorting of cigars and cigarettes no person engaged in such work shall at any time touch with the lips, teeth or tongue any cigar, cigarette or tobacco to be offered for sale, and manufacturers are required to post in their establishments warnings against such practices. In factories and other places where, in the regular course of the business, dust, gases, fumes, etc., are generated or released in quantities constituting a menace to health, efficient suction devices must be provided. The owner, lessee, or other person having the management of any salt marsh land, inland swamp, sunken lot, abandoned excavation, or any place on or in which water becomes stagnant, and may thus lead to the breeding of mosquitoes, is required to drain or fill in the place, or to employ such other method as will at all times prevent the breeding of mosquitoes there. The private hospitals in the city which are established and maintained by benevolent corporations, are invariably chartered by the state, but in addition to these there have been operated an increasing number of small private hospitals, not in receipt of public funds, which are not charitable institutions, and which do not come under inspection by the agents of the State Board of Charities. Conditions having arisen which pointed clearly to the necessity for the control and regulation of establishments of this kind, it was decided by the board of health to take action in the matter, and, accordingly, in the new code it is provided that hereafter no person or corporation other than those specifically authorized by law shall "conduct or maintain any private hospital or institution wherein human beings may be treated or cared for by physicians or midwives without a permit therefor issued by the board of health."

ADMISSION TO THE RUTLAND STATE SANATORIUM.

THE Rutland State Sanatorium ever since its opening in 1898, has been reserved, according to

the ruling of the board of trustees, for early and favorable cases of pulmonary tuberculosis. Prior to 1910, when the present board of trustees took charge, applicants for admission to this sanatorium had first to be examined by a special Rutland examiner, who passed upon the patient's fitness as a patient for this institution. There were ten or twelve such examiners scattered throughout the state. In addition to passing this examination, no patient could be admitted unless he or his relatives and friends could provide the necessary $4.00 a week.

Under this system the average number of really incipient cases at Rutland was about 27-28%, occasionally reaching as high as 32-33% of the whole. The remaining patients were in the advanced or moderately advanced stages of the disease. When the present board of trustees took charge of the Rutland Sanatorium, the old system of special examiners was discontinued and an elaborate application blank was prepared, which any registered physician in this state could fill out and by this means make application for admission to Rutland for his patients. The payment of $4.00 a week as an essential requirement for admission was also done away with. As a natural result of this change in the method of admission to Rutland, at first the number of incipient cases admitted fell to 18-20%. Gradually, however, as the medical profession became more proficient in the early diagnosis of tuberculosis, the percentage of incipient cases has risen so that now the proportion is about the same or better under the present system than it was formerly under the old system of special examiners. The fact still remains, however, that at present, as in the past, two-thirds or more of the patients at Rutland, an institution supposed to be reserved for the early and favorable cases of tuberculosis, are in the moderately advanced or advanced stages; likewise the unsatisfactory condition continues, in that really favorable patients, especially among men, must wait two to three months and sometimes four months before their names are reached, for admission to Rutland.

In order to improve this state of affairs and to allow of the admittance of early cases without this long delay, the board of trustees at its last meeting, held Jan. 5, 1915, passed the following vote:—

Voted, That whereas the Rutland State Sanatorium is reserved for early and favorable cases of pulmonary tuberculosis, in future all patients admitted to the Rutland State Sanatorium be placed on trial for a period of one month in order to ascertain their eligibility for this institution. If at the end of this period of one month patients are found not to be suitable cases for the Rutland Sanatorium, they are to be given opportunity of transfer to one of the other state sanatoria and their names placed at the head of the list for this purpose.

It is not believed that this vote will cause any hardship to any patient. Arrangements will be made to transfer patients, who after their period of probation are found to be unsuitable for the purposes of the Rutland Sanatorium, to some other sanatorium or to a local hospital. It will result, it is to be hoped, in shortening the waiting list and in reducing to a reasonable time the period of waiting which incipient and favorable cases of tuberculosis now have to undergo before admittance. It will also result, it is hoped, in making Rutland an institution in fact, as in name, for incipient consumptives, while in addition it ought greatly to improve the atmosphere and morale of the sanatorium. It will doubtless cause considerable discontent and mental anguish among those patients who after a month's time are found not suitable for Rutland and who have to go elsewhere. It will likewise cause some dissatisfaction among physicians who may not agree with the decision reached at the sanatorium. It is hoped, by making this statement and by explaining the reasons for this change and the causes which have made it necessary, that the medical profession of the state will see the wisdom therefor and will coöperate with this board in making the change successful and beneficial.

CONTAMINATION OF FOOD WITH FECAL MATTER.

ALL persons who have had active experience in the effort to improve sanitary conditions in backward rural districts agree that one of the most difficult problems is to convince the people that their water supplies are in reality not so pure as they seem to the unaided senses. If water is clear, cold and plentiful, and devoid of bad taste or odor, the average person, unedu-

cated in the refined methods of modern analysis, is loth to believe that it can carry within its sparkling depths anything so dangerous as the germs of disease. In fact, it has been practically known for a long time that a considerable portion of certain rural populations consumes by accident more or less human excrement, but in order to convince the people themselves that such is the case, some incontrovertible scientific proof was necessary. Believing that such actual demonstration would have a high educative value, Professor Stiles of the Hygienic Laboratory has succeeded in evolving a method for this purpose.*

The fundamental principle underlying the method consists in the fact that certain animal parasites, namely the entamoeba coli, lamblia, trichomonas, ascaris lumbricoides, and trichuris trichiura are found in the intestines of man only, not being found in the alimentary tract of any animal and having no free living state outside the human intestines, the transmission from person to person occurring in either spore or egg form. Therefore any person who has in his intestines one of these parasites must necessarily have obtained it by swallowing human excrement. The Division of Zoölogy of the Public Health Service applied this test to 2372 persons taken at random in twelve different localities in three states. They found that 425 out of the 2372 had one or more of these strictly human parasites in their stools, thus proving by zoölogical methods alone that 17.9% of the persons examined had unwittingly partaken of food or drink contaminated with human feces.

The impartation of such information to a community grown lax in its personal sanitation and lukewarm to the efforts of health officers to better conditions, should certainly have a salutary effect. Indeed, it would seem that people who failed to be awakened by a knowledge of this kind were hopelessly asleep and incapable of any kind of progress.

* Annual Report of the Surgeon General, U. S. Public Health Service, 1914, p. 22.

MEDICAL NOTES.

AMERICAN SOCIETY FOR THE CONTROL OF CANCER.—A meeting of the American Society for the Control of Cancer was held in Boston on Jan. 14, with addresses by Dr. J. Collins Warren, Dr. Edward Reynolds, and Prof. Dr. W. T. Sedgwick, of the Massachusetts Institute of Technology.

THE EPIZOÖTIC OF FOOT AND MOUTH DISEASE.—With the gradual subsidence of the epizoötic of foot and mouth infection, there is a gradual removal of the national quarantine regulations by means of which the disease has been brought under control. On January 13, the quarantine of livestock was suspended in many counties of Indiana, Kentucky and New York. In Massachusetts movement of livestock in non-infected areas is now permitted.

SOCIETY OF AMERICAN BACTERIOLOGISTS.—The Society of American Bacteriologists held its annual meeting in Philadelphia at the Laboratory of Hygiene, University of Pennsylvania, Dec. 29, 30 and 31, 1914.

The following officers were elected: President, D. H. Bergey, M.D.; vice-president, John Weinzirl, M.D.; secretary-treasurer, A. Parker Hitchens, M.D.; council, K. F. Kellerman, M.D., W. A. Stocking, Jr., M.D., R. E. Buchanan, M.D., R. J Conn, M.D. Delegate to A. A. A. S., M. J. Rosenau, M.D.

The next regular meeting of the society will be held in Urbana, Illinois. The chairman of the local committee is Professor H. A. Harding. A special meeting of the society will be held in San Francisco during the summer.

PELLAGRA AND POLIOMYELITIS IN MISSISSIPPI.—During the month of November, 1914, 603 new cases of pellagra and nine of poliomyelitis were reported in the state of Mississippi.

TUBERCULOSIS IN NORTH CAROLINA.—In the weekly report of the United States Public Health Service for Jan. 15, is reprinted the following extract from the message of Governor Craig to the North Carolina General Assembly on Jan. 7. It evidences well his appreciation of the seriousness of the problem of state control of tuberculosis and indicates some of the measures which it is expected may be taken in North Carolina to meet it:—

"The problem of dealing with tuberculosis is most serious. In North Carolina it has been ascertained that 18,000 people are the victims of this disease. Many may have it of whom we do not know. It is an ever-present plague that stalks abroad at noonday, and one-seventh of all the deaths in the state are from this dreaded disease. The state sanatorium was established in response to the demand that something must be done for the afflicted, and to stop the ravages of the plague. In my opinion this institution, with its present scope and efficiency, is utterly incapable of dealing effectively with the situation. As an institution for the purpose of educating people to care for themselves and disseminating knowledge of the disease, it cannot be as effec-

tive as could a bureau established for the purpose of sending literature to every person in the state known to be afflicted. Such literature could present the situation more intelligently to the people and with more efficacy than could be done by a few patients who are fortunate enough to secure admission to the small establishment at Sanatorium. There are now about 90 patients in this institution. It is most humanely and most ably managed. Yet it is altogether inadequate to deal with this stupendous proposition that so vitally affects the people. It has done good in individual instances, but there are thousands in the state who cannot gain admittance, and who will desire admittance when its efficiency is recognized. This institution can never care for those entitled to admission. On the present plan, the whole revenue of the state could not meet the demand. *It is one of the highest obligations of the state to deal with this disease, to do all possible to prevent it, and to cure those who have it.* I hope that this general assembly can work out a practical method that will be effective."

ASSOCIATION OF LIFE INSURANCE PRESIDENTS.—The recently published proceedings of the eighth annual meeting of the Association of Life Insurance Presidents, held in New York City on Dec. 10 and 11, 1914, includes several papers on the relations of life insurance to questions of public health. Among these may be mentioned one by Mr. Rudolph Hering on the "Relation of Sanitary Engineering to Public Health," and one by Mr. Arthur Hunter entitled "Can Insurance Experience be Applied to Lengthen Life?" Mr. Hering summarizes the work and methods of sanitary engineering under six groups, dealing respectively with water supply, air supply, street cleaning, river cleaning, refuse removal and sewerage removal. In all these he concludes that public works relating to sanitary engineering have reached a point of development based on sufficient knowledge and experience to present satisfactory solutions in practically all cases. Mr. Hunter believes emphatically that insurance experience can successfully be applied to lengthen life. The statistics gathered by insurance companies are particularly of value from the information which they afford relative to hazardous occupations, tuberculous family history, history of important infections such as rheumatism, typhoid, or syphilis, cardiac and renal physical defects, addiction to alcohol and excessive emaciation or obesity.

EUROPEAN WAR NOTES.—On Jan. 13 a Japanese Red Cross unit sailed from New York aboard the *Megantic* for Southampton, England, where it will be stationed at the Netley Royal British Naval and Military Hospital, to which it has been assigned for duty. The unit consists of Surgeon-General Suzuki, Dr. T. Oshima, and 21 nurses.

On Jan. 16 a cargo of sera, antitoxins, adhesive plaster, bandages, and 1500 pounds of chloroform was shipped to London from the American Red Cross at New York aboard the *Minnetonka.*

The American Field Ambulance Association, Incorporated, has been formed by Charles E. Cotting of Boston, Robert Walcott of Cambridge, Frank Cheney, Jr., of South Manchester, Conn., Theodore S. Farrelly of New York City, and Samuel Thorne, Jr., of Rye, N. Y. The objects of the corporation are to operate a field ambulance service in France, Belgium and elsewhere, to relieve the sick and wounded, and perform such other work as may seem necessary, and to acquire such property as these purposes of the corporation shall require.

The principal office of the corporation is at 19 Cedar Street, New York City. The organization is neutral and is operating subject to the rules of the Geneva Convention, which entitles its members to wear the red cross. For financial support it depends entirely on the generosity of Americans, and since the need of funds to maintain equipment and support the personnel is urgent at present, contributions may be sent to any of the incorporators or to Samuel Thorne, Jr., treasurer, 19 Cedar Street, New York City.

An unauthenticated report in the public press states that Dr. Alexis Carrel, at his hospital in Lyons, France, has succeeded in grafting an entire forearm and elbow-joint from a moribund to a wounded patient. If this be true, it is not only a great personal triumph for Dr. Carrel, but a demonstration of the value of experimental surgical research.

On Jan. 23 the total of the New York Belgian relief fund amounted to $862,573.52; the New York Red Cross fund to $444,312.76; the New York Jewish relief fund to $320,097.36; the American Ambulance Hospital fund to $312,397.15; the Prince of Wales fund to $105,763.88; and the American Polish relief fund to $16,851.37.

On Jan. 24 the total of the New England Belgian relief fund amounted to $179,287.17; the Massachusetts Red Cross fund to $103,297.66; the Boston branch of the American Ambulance Hospital fund to $51,636.45; the New England Jewish relief fund to $27,273.35; and the Boston Polish relief fund to $14,154.97.

MORTALITY FOR WEEK ENDING JANUARY 15, 1915.—The Department of Health yesterday gave out the following figures concerning the mortality during the week ending January 16: The increase in the mortality from acute bronchitis, lobar pneumonia and broncho-pneumonia, to which attention was called in last week's bulletin, continued during the past week, the number of deaths totalling 311 as against 246 during the corresponding week in 1914. The increased mortality from these causes was more than offset by the decreased mortality from certain other

causes, especially measles, scarlet fever, pulmonary tuberculosis, Bright's disease and nephritis and violence, so that the death-rate from all causes combined was 14.49 per 1000 of the population, against 14.86, a decrease of .37 of a point, which is equivalent to a relative decrease of 41 deaths in the week's mortality.

The increase in the mortality during the past week was chiefly among children under five years of age, and especially so among children under one year of age, there being 51 more deaths reported at this latter age group. The mortality at the other age groups was somewhat lower than in the corresponding week of 1914.

The death-rate for the first three weeks of this year was 14.73 per 1000 of the population, as against 14.62 during the corresponding period in 1914, an increase of .11 of a point.

Harvey Lecture.—The seventh in the current series of lectures before the Harvey Society will be delivered on Saturday evening of this week, Jan. 30, at the New York Academy of Medicine, by Professor Hans Zinsser, of Columbia University, on "The More Recent Developments in the Study of Anaphylactic Phenomena."

Bequest to the Rockefeller Institute.—The will of the late Henry Rutherford, recently admitted to probate, contains a bequest of $200,000 to the Rockefeller Institute for cancer research.

BOSTON AND NEW ENGLAND.

Lawrence Maternity Association. — The Lawrence (Mass.) Maternity Association has been formed to aid those women whose circumstances do not permit the employment of regular medical attendance with nursing, at time of childbirth. The central office at the Lawrence General Hospital will be open at all hours, day and night. Patients may register, and the services of physicians and nurse may be secured. It is urged that registration be made at least three months before expected labor, thus giving the patient the benefit of the nurse's visit beforehand. Care and instruction will be given from time to time by the physician and nurse, and the patient will receive daily visits after delivery as ordered by physician. A moderate fee will be charged for services, which will be explained at time of registration.

Aesculapian Club of Boston.—The midwinter meeting of the Aesculapian Club of Boston was held at the Harvard Club on Saturday evening, Jan. 9, being preceded by a dinner of the club at which were 103 members and the guests, Dr. Oscar Dowling, president of the Louisiana Board of Health, and Mr. Norman Hapgood, editor of *Harper's Weekly*. The meeting was at 9 p.m., there being present, beside the members, about 125 guests. The first speaker, Dr. Dowling, gave a very interesting talk, narrating in some detail the history of his board from early days, its present trials and successes, its tour of the state with cars of exhibition and instruction, and its methods and results in cleaning up various objectionable towns and places. Mr. Hapgood's talk was general and on the whole well chosen and complimentary to the profession. He touched on the failure of segregation in the regulation of prostitution, on the magnitude of the question of prohibition, on the dissatisfaction of the public in regard to the "alienist" testimony of experts at trials, and on various other matters.

Annual Meeting Boston Medical Library.—At the annual meeting of the Boston Medical Library, held Jan. 12, 1915, the former officers were reëlected: Dr. John W. Cummin was elected to the committee on library and finance, in place of Dr. Morton Prince, who retired after sixteen years service; Dr. Reginald Fitz became a member of the committee on medical and social meetings; Dr. Daniel F. Mahoney a member of the committee on membership and elections; and Dr. Walter Channing and Dr. John W. Bartol were elected vice-presidents. Dr. Francis W. Peabody gave an interesting talk, illustrated by the stereopticon, on "Western Medicine in China." According to the report of the librarian the library now contains 82,275 books and 57,035 pamphlets and use of its facilities has been made by 14,105 readers during the past library year, two-thirds of these being medical students and the public. The number of readers has shown a progressive increase from year to year. The total membership of the library is now 742, a gain of 43 over that of last year.

Cases of Infectious Diseases reported to the Boston Board of Health for the week ending Jan. 19, 1915: Diphtheria, 63, of which 2 were non-residents; scarlatina, 65, of which 5 were non-residents; typhoid fever, 3; measles, 64; tuberculosis, 45, of which 2 were non-residents. The death-rate of the reported deaths for the week was 16.40.

Massachusetts Medical Society

Franklin District Medical Society.—The Franklin District Medical Society held a meeting at the rooms of the Greenfield Club, Greenfield, on Jan. 12, 1915, the program being entitled "Health Day." Dr. J. E. Urquhart of Ashfield, president, was in the chair, and Dr. G. P.

Twitchell of Greenfield acted as secretary. Dr. William C. Hanson read a paper on "The Functions of the State Department of Health"; Dr. Francis G. Curtis, chairman of the board of health of Newton, read on "The Benefit to the Community of the Health Office"; Mrs. William Lowell Putnam of Boston on "The Benefit to the Producer of Clean Milk." The papers merited the interesting discussion which followed, bringing out the needs of better medical education and standards in the country districts. The following took part in the discussion: Dr. J. S. Hitchcock, state inspector of health for the Northampton district, Dr. N. P. Wood and Mr. Moody of Northfield, Dr. P. W. Goldsbury of Warwick, Dr. Urquhart of Ashfield, Drs. B. P. Croft, G. P. Twitchell and F. W. Donahue of Greenfield, Dr. H. A. Suitor of South Deerfield and Messrs. Covell of Shelburne and George Moore of Greenfield.

Current Literature

MEDICAL RECORD.

JANUARY 2, 1915.

1. FISHBERG, M. *Artificial Pneumothorax.*
2. BRICKNER, W. M. *A Simple, Easily Regulable Method of Applying Abduction in the Treatment of Shoulder Disability.*
3. PETERS, L. S. *Tuberculin in Pulmonary Tuberculosis.*
4. BECHET, P. E. *Diseases of the Skin in Pregnancy.*
5. BARNES, F. H. *Medical Inspection of Schools in Connecticut.*
6. JOHNSTON, J. C. *A Suggestion in Cases of Late Operation for Intestinal Obstruction.*
7. PAGE, B. W. *Etiology of Pellagra.*

JANUARY 9, 1915.

1. *LYDSTON, G. F. *A Unique Case of Syphilis of the Cranium and Spine; with Remarks on Syphilitic Bone Dystrophy.*
2. GLEASON, W. S. *Obscure Causes of Disease.*
3. STARKEY, F. R. *Intestinal Stasis.*
4. BANDLER, S. W. *The Use of Pituitary Extract in Obstetric Practice; with Some Critical Observations on "Twilight Sleep."*
5. FRAZER, T. *The Significance of the von Pirquet Test.*
6. VON WEDEKIND, L. L. *The General Use of Distilled Water, Thereby Securing the Elimination of Toxins Leading to Arterial Changes, and the Elimination of WaterBorne Disease.*
7. SCHLESINGER, M. F. *Reasons for Discrepancies in Reports on the Wassermann Reaction, from a Technician's Side.*
8. PETTY, O. H., *and* PITFIELD, R. L. *Enormous Tumor of the Uterus.*
9. HENKIN, A. L. *Pemphigus Foliaceus Neonatorum.*

1. Lydston reports a case of late syphilis of the cranium and spine without symptoms referable to the bony structures involved, and without disturbance of brain or nerve function. Such lesions, he says, are due not to pressure or corrosion but to perversion of nutrition resulting from luetic toxemia which affects especially the sympathetic system. In cases of this sort the bones of the face are more often selected than those of the cranium and spine, the tissues supplied by the fifth nerve being particularly susceptible. There may or may not be gummatous infiltration elsewhere. The treatment is necesarily surgical as well as specific. [L. D. C.]

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

JANUARY 9, 1915.

1. *WILLIAMS, J. W. *The Limitations and Possibilities of Prenatal Care, Based on the Study of Seven Hundred and Five Fetal Deaths Occurring in Ten Thousand Consecutive Admissions to the Obstetrical Department of the Johns Hopkins Hospital.*
2. MARTIN, W. F. *Value of Hydrotherapy in Urology.*
3. *THOMAS, G. T., AND BRAASCH, N. F. *The Practical Value of Chemical Tests of Renal Function in Surgical Conditions of the Urinary Tract.*
4. KERRISON, P. D. *The Treatment of Advanced Tympanic Deafness. Clinical Observations Bearing on the Problems Involved.*
5. JONES, E. L. *The Relation of the Rhinopharynx to the Middle Ear and Mastoid.*
6. FOWLER, E. P. *The Origin of Labyrinthine Rest Tone.*
7. *NOVAK, E. *The Atropin Treatment of Dysmenorrhea.*
8. NAVAN, J. F. *The Endowment of Motherhood.*
9. ELLIS, A. W. M., CULLEN, G. E., AND VAN SLYKE, D. D. *The Amino-Acid Content of the Blood and Spinal Fluid of Syphilitic and Non-Syphilitic Individuals.*
10. *EISENDRATH, D. N. *The Effects of Collargol as Employed in Pyelography.*
11. DUNNING, H. S. *Fractures of the Inferior Maxilla. A Report of One Thousand and Sixty-five Cases Treated.*
12. WILLIAMS, A. W. *A Portable Positive Pressure Apparatus for Administration of Ether by Intratracheal Insufflation.*
13. HENDERSON, M. G. *Resection of the Knee Joint for Tuberculosis.*
14. DICK, A. F., AND DICK, G. R. *The Bacteriological Examination of the Urine in a Case of Eclampsia.*
15. MAYORAL, A. *Report of a Case of Acute Dilatation of the Stomach.*
16. BOSMOT, E. *Quinin Salts in Post-operative Cases. Preliminary Report.*

1. Williams in an exhaustive analysis shows that syphilis is far and away the most common etiologic factor concerned in the production of death, presenting an incidence of 26.4%. Toxemia, including eclampsia and nephritis, accounted for only 6.5% of deaths; 17.4% were due to dystocia. The article is of much interest and value.

3. These authors, while not underrating the phenolsulphonephthalein test for renal function, contend clinical data and surgical necessity should be the determining factors in deciding whether an operation is or is not necessary.

7. Novak is an advocate of this form of treatment.

10. Eisendrath shows experimentally the dangers of collargol or any substance injected into the renal pelvis under pressure or in too large amounts. He, however, claims that there is no danger in the human subject, provided ordinary care is taken not to use pressure or large amounts. [E. H. R.]

JANUARY 16, 1915.

1. *CUSHING, H. *Concerning the Results of Operations for Brain Tumor.*

2. *GILLHORN, G. *Three Cases of Extraperitoneal Cesarean Section.*
3. *ROBERTSON, W. E., AND KLANDER, J. V. *Various Types of Lues. A Clinical and Laboratory Study.*
4. BABCOCK, W. W. *Osteoplastic Surgery of the Face.*
5. *BARBER, W. H., AND DRAPER, J. W. *Renal Infection. A Further Experimental Study of Its Relation to Impaired Ureteric Function.*
6. *PHEMISTER, D. B. *Necrotic Bone and the Subsequent Changes Which It Undergoes.*
7. STEINDLER, A. *Coxa Vara Adolescentium Traumatica.*
8. RIDLON, J. *Coxa Vara.*
9. *SMITH, G. G. *Separate Renal Function. Observations as Determined by the Ureter Catheter and Phenolsulphonephthalein.*
10. *MACGOWAN, G. *Hematogenous Kidney Infections.*
11. *CUNNINGHAM, J. H. *Acute Unilateral Hematogenous Infections of the Kidney.*
12. ZAPJLE, F. C. *Autogenous Vaccine in Treatment of Sciatica.*

1, 2, 3, 5. These articles are of interest, but not particularly suited to review.

6. This paper is of considerable practical interest and well illustrated by plate.

9. Smith shows that after the intravenous injection of 6 mg. phenolsulphonephthalein, each kidney of a normal pair begins to excrete the dye in about 3 minutes, and in the next 15 minutes puts out about 15%. If a sound kidney, which has a diseased fellow, excretes 15% it is at least equal to one normal kidney; if more than that it is already taking up the work of both. Such a kidney may put out 30% in this period, or as much as two normal kidneys combined.

10, 11. These two papers are an interesting and valuable review and contribution to this subject.

[E. H. R.]

JOURNAL OF INFECTIOUS DISEASES.

NOVEMBER, 1914.

1. *KENDALL, DAY AND WALKER. *The Metabolism of Saprophytic Human Tubercle Bacilli in Plain, Dextrose, Mannite and Glycerin Broths.*
2. *KENDALL, DAY AND WALKER. *The Metabolism of Certain Rapidly Growing Human Tubercle Bacilli in Broth Free from Lipoids and Fatty Substances.*
3. *KENDALL, DAY AND WALKER. *The Metabolism of Certain Rapidly Growing Human Tubercle Bacilli in a Modified Uschinsky Medium.*
4. *KENDALL, DAY AND WALKER. *The Metabolism of Certain Rapidly Growing Tubercle Bacilli in Media with Inorganic Salts as Sources of Nitrogen.*
5. *KENDALL, DAY AND WALKER. *The Metabolism of "Lepra Bacillus," Grass Bacillus and Smegma Bacillus in Plain, Dextrose, Mannite and Glycerin Broths.*
6. *KENDALL, WALKER AND DAY. *The Occurrence of a Soluble Lipase in Broth Cultures of Tubercle Bacilli and Other Acid-fast Bacteria.*
7. *KENDALL, WALKER AND DAY. *The Relative Activity of the Soluble Lipase and Lipase Liberated During Autolysis of Certain Rapidly Growing Tubercle Bacilli.*
8. *KENDALL, WALKER AND DAY. *Observations on the Specificity and Thermostability of the Lipase Developed During the Growth of a Rapidly Growing Tubercle Bacillus in Media of Varied Composition.*
9. *KENDALL, WALKER AND DAY. *A Comparison of the Curves of Lipolytic Activity and Proteolysis of Certain Rapidly Growing Human Tubercle Bacilli in Media of Varied Composition.*
10. *KENDALL, WALKER AND DAY. *A Comparison of the Curves of Lipolytic Activity and Proteolysis of Certain Acid-fast Bacilli in Nutrient Broths.*
11. DEWEY AND MEZUM. *The Effect of Cholesterol on Phagocytosis.*
12. DAVIS. *The Formation of Chlamydospores in Sporothrix Schenckii.*
13. HIRSCH. *An Experimental Study of the Influence of Iodin and Iodids on the Absorption of Granulation Tissue and Fat-Free Tubercle Bacilli.*
14. ELLIOTT. *The Antigenic Properties of Glycoproteins.*
15. *CORTER. *The Therapeutic Value of Copper and Its Distribution in the Tuberculous Organism.*
16. MEIGS. *The Relation Between the Allergic Intracutaneous Reaction and the Symptoms of Anaphylaxis.*
17. BURMEISTER. *The Protein Poisons of the Tonsil.*
18. HARRIS. *Histologic Differentiation by Means of Anilin Stains in Association with "Regressive Mordanting," with Special Reference to Elastic Tissue.*
19. *HALL AND TABER. *The Effect of Gentian Violet on the Bacillus Tetani, Tetanus Toxin and Certain Laboratory Animals.*
20. *BROWNE. *The Production of Acid by the Bacillus Coli Group.*

1-10. Kendall, Day and Walker print a series of ten papers upon "Studies in Acid-Fast Bacteria," from which the following conclusions have been reached:—

Young, rapidly growing tubercle bacilli are, in part at least, non acid-fast. During the first three weeks of growth of the tubercle bacillus in plain and sugar media there is a rapid accumulation of ammonia, which later gradually, but definitely, recedes.

Early in the growth of the tubercle bacillus the nitrogen of the media is markedly diminished. Later much of the "lost" nitrogen reappears. The reappearance of nitrogen is coincident with the loss of vegetative activity of the organism and is possibly due to autolysis. Similar results were found with other members of the acid-fast group, notably the smegma and the grass bacillus.

All forms of acid-fast bacilli produce in a wide variety of media a free, soluble, thermostable, non-diffusible lipase during the period of active development, the activity of which is proportionate to the luxuriance of growth of the organism. The lipase curve is parallel to that of the ammonia. Washed tubercle bacilli also contain such a soluble lipase, although it is less active than that previously freed from the bacilli. It is impossible to state whether this soluble lipase, found free in the media, is a result of autolysis or is an exolipase.

15. Copper, introduced into the guinea-pig in all forms and in every manner, has no effect upon tubercular lesions. It is suggested that this is due to the fact that all such salts become in the body colloidal copper, which cannot penetrate the tubercle or other necrotic areas.

19. The addition to culture media appropriate for the growth of the tetanus bacillus of gentian violet inhibits growth when in proportion of 1:10,000; prevents growth without the destruction of the organism in 1:100; and destroys its virulence in 1:10. The practical application of this agent in the laboratory is precluded by the excessive soiling of apparatus by such strong solutions as are necessary to secure avirulence.

20. Browne, in a most interesting and complete article upon acid production by the coli group, states that maximum fermentation takes place in 20 hours at 37°C., provided 0.5 c.c. of a 24-hour peptone culture be used as an inoculum, and the carbohydrate be present in 1% solution. The extent of acid production depends, not on the amount of media nor the power of the organism to ferment, but upon the tolerance of the particular strain to the acid itself. This is clearly

demonstrated by further acid production following neutralization of the acid already formed. This may take place until the carbohydrate is completely exhausted. The greatest amount of acid is produced in media containing the monosaccharids, less from the disaccharids, and least from Raffinose, a trisaccharid. [L. H. S.]

JOURNAL OF MEDICAL RESEARCH.

NOVEMBER, 1914.

1. DAYTON. *Reliability of Dogs as Subjects for Experimental Nephritis.*
2. BUERGER. *Recent Studies in the Pathology of Thrombo-Angiitis Obliterans.*
3. DARLING. *The Endotympanum of Hoffman's Sloth.*
4. GURD. *Studies upon Anaphylaxis and Its Relationship to Immunity. Study I. The So-called Incubation Period in Transferred Anaphylaxis.*
5. ISHII AND LOEB. *A Comparative Study of the Growth of Normal Mouse Carcinoma and of Mouse Carcinoma with an Experimentally Decreased Virulence.*
6. OHLER. *Experimental Polyneuritis. Effects of Exclusive Diet of Wheat Flour, in the Form of Ordinary Bread, on Fowls.*
7. MITCHELL AND BLOOMER. *Experimental Study of the Chicken as a Possible Typhoid Carrier.*
8. OWER. *Early Aneurysm of the Aorta.*
9. SMYTH. *A New Medium for the Cultivation of Chick Tissues in Vitro, with Some Additions to the Technic.*
10. *FLOYD. *The Interrelationship of Dry Pleurisy, Pleurisy with Effusion and Empyema.*
11. DENNY AND FROTHINGHAM. *Experimental Arterial Disease in Rabbits.*
12. *SOUTHARD AND CANAVAN. *On the Nature and Importance of Kidney Lesions in Psychopathic Subjects.*
13. SIMPSON. *The Small Kidney, with Special Reference to the New Formation of Tubules.*
14. *MAJOR. *The Pathological Anatomy of the Pancreas in Diabetes.*

10. Floyd concludes from a series of animal experiments that acute pleuritis, whether dry or associated with serous or purulent exudates, is essentially a pathological unit. The extent of the process and the nature of the fluid depends upon the virulence of the infection, the body resistance and the extent of chemiotaxis which the infecting organism excites.

12. In 100 psychopathic autopsies, Southard and Canavan found gross or macroscopic renal involvement in every instance. In many cases, however, the extent of this process had little clinical significance. Chronic interstitial nephritis was demonstrated grossly in 42%, microscopically in 66%. These figures are striking and are of considerable importance. Detailed study of the occurrence of plasma cells in the kidney substance, and the relation between their presence and certain psychopathic states follows.

14. Major found the islands of Langerhans in diabetes normal in 44% and the seat of fibrosis in 46%. In 46% of the latter hyaline degeneration was found, which was the most striking and constant lesion associated with diabetes, since in only one instance was it found in a non-diabetic case. The inevitable conclusion is drawn that no anatomical evidence exists to prove the diabetes is due to pancreatic disease. [L. H. S.]

ANNALS OF SURGERY.

OCTOBER, 1914.

1. *OPPEL, W. A. *Principles of Operative Treatment of the Diseases of the Large Intestine.*
2. *JONES, S. F., AND WHITMAN, R. C. *Primary Sarcoma of the Lower End of the Femur, Involving the Synovial Membrane.*
3. ALEXANDER, E. G. *Treatment of Old Contracted Cicatrices.*
4. ELSBERG, C. A. *Laminectomy for Spinal Tumor.*
5. BRYAN, R. C. *Aneurysm of the Sciatic Artery.*
6. TOREK, F. *Disappearance of Recurrent Mammary Carcinoma after Removal of the Ovaries.*
7. SPEED, K. *Injuries of the Great Toe Sesamoids.*
8. *MANN, A. T. *The Free Transplantation of Fascia Lata.*
9. *WHITMAN, R. *A Critical Analysis of the Treatment of Fracture of the Neck of the Femur.*
10. HART, H. H. *Flash-light Autochrom Photography of Pathological Subjects.*

1. Oppel's comprehensive contribution is based upon an experience of 41 cases of resection or exclusion of the large intestine. He warns against the formation of a cul-de-sac. If this cannot be avoided he recommends making a mucous fistula at the proximal end of the cul-de-sac. He condemns the unilateral exclusion of the large intestine effected by means of ileocolostomy with division of the distal portion of the ileum. The Giordano—Bergmann operation (caeco-sigmoidostomy) and Montprofit's (division of ileum and double implantation into sigmoid) are carefully considered and condemned. An economical (short loop) partial unilateral exclusion (entero-anastomosis) is favorably regarded for non-malignant obstructions (pericolic contractions, kinks and benign strictures). For such conditions at the flexures colo-colostomy (transverse to ascending or to descending) with short loop is considered rational and leaves no culs-de-sac. An exception to preference of partial unilateral exclusion over complete unilateral exclusion is in strictures of the cecum. Here ileo-transversostomy with division of the distal ileum is better than same anastomosis without ileal division. In case of difficulty in bringing the ends of the colon together after resection (resection of ascending and transverse colon), Oppel suggests a high ileocolostomy (not an ileo-sigmoidostomy) with formation of mucous fistula at top of right hand cul-de-sac. Appendicostomy is considered worthy of wider recognition.

2. Jones and Whitman report fully and discuss at length a case of primary sarcoma of the lower end of the femur, involving the synovial membrane. Exploration with removal of section for microscopical examination revealed the nature of the condition. High thigh amputation was performed, but the patient died in three months of metastases in the lungs. Prints of x-rays and photomicrographs are given. The literature has been searched and only 17 cases found.

8. Mann's paper is based upon an experience of 44 cases of fascial and tendon transplants in animals and several in man. He gives in detail the use of two strips of ilio-tibial band to strengthen a large umbilical hernia and of one strip to strengthen a Bassini operation. He pictures the use of fascia to strengthen a Ferguson operation. He emphasizes the importance of laying the transplant *in situ* so that its fibres are "on the stretch."

9. Whitman clearly sets forth his abduction treatment of fractures of the neck of the femur. He points out the greater certainty of contacting the fragments and of maintaining their contact by this method. Age is no contra-indication. In fact, the possibility of raising the head of the bed instead of the necessity of raising the foot of the bed in extensive treatment diminishes the likelihood of hypostatic congestion, and the possibility of turning the patient instead of the enforced rest upon the back in extension treatment diminishes the likelihood of bed sores. [T. W. H.]

Obituary.

DUDLEY P. ALLEN, M.D.

DR. DUDLEY P. ALLEN, an eminent surgeon of Cleveland, Ohio, died in New York City on Wednesday, Jan. 6, 1915. Throughout his active and useful life he was so often and so closely identified with Boston, and he has had so many professional friends and acquaintances here, that his death calls for more than a passing notice in these columns.

Dr. Allen was born in Kinsman, Ohio, March 25, 1852. Both his father, Dr. Dudley Allen, and his grandfather were physicians. After graduating from Oberlin College in Ohio, he came to the Harvard Medical School, where, after following the usual course, he received the degree of M.D. During the year 1879-1880 he was surgical house-officer in the Massachusetts General Hospital, being assistant to Drs. Samuel Cabot, J. Collins Warren, and C. B. Porter; and it was in that school of surgery— where he was also associated with Drs. Henry J. Bigelow, Richard M. Hodges, H. H. A. Beach, John Homans and others—that he developed an intense interest in the practical side of surgery, and began a career which in course of time brought him to the front rank among the surgeons of the country. After finishing his term of service at the hospital he went to Europe, where he passed several years attending lectures and following the work at all the best clinics, especially the surgical ones, in Berlin, Leipzig, Freiburg, Vienna, London and Paris. On returning to America in the early 80's he settled in Cleveland, and began to teach and practise surgery. He soon became lecturer on surgery at the Western Reserve Medical School, and later was appointed professor of surgery and clinical surgery.

Dr. Allen was early given a position on the staff of the Lakeside Hospital, and for many years he was visiting surgeon in that institution, having in charge a very large clinic. His private practice grew rapidly, until, as a surgical consultant, his services were in constant requisition all over the state of Ohio, and even beyond its boundaries. He was greatly interested in the development of the Cleveland Medical Library, and gave to that institution material assistance in many different ways. Finally, he was chosen president of the Ohio State Medical Society. As time went on he came even more and more to the front, for his intelligence, courage, and industry, and his deep interest in all problems connected with medicine and surgery brought him into prominence throughout the country. For years he was secretary of the American Surgical Association, and finally (1906-1907) he was president of that association. In 1906 he was elected Honorary Fellow of the Philadelphia Academy of Surgery, and in 1908 Oberlin College conferred upon him the degree of LL.D.

During all this time Dr. Allen frequently came to Boston; sometimes for the purpose of reading papers on professional subjects, and at other times to study methods of operation and instruction. He always preserved the keenest interest in the medical practices and traditions of Boston. In 1910 he resigned all his medical positions and retiring from active practice, started with his wife (formerly Miss Elizabeth S. Severance of Cleveland) on a tour around the world. On his return to Cleveland after this long journey, a banquet was given in his honor by his medical colleagues, and the large attendance and the cordial and dignified character of the addresses attested the warm affection and the high esteem in which he was held.

Dr. Allen's interests were not limited to professional fields. Both music and art claimed a large share of his attention. His superb collection of engravings, etchings, pictures, and porcelain includes many rare specimens of the choicest variety. He was a recognized expert throughout the country in old Chinese porcelains. Undoubtedly it was because of his great knowledge of art, and of his love for it, that he was made a trustee of the Cleveland Museum of Art. He was aso deeply interested in religious and philanthropical work, as well as in many other directions.

He died of pneumonia after a few days' illness.

He had many lovable characteristics, and was a loyal friend. His loss will be keenly felt by those who had the privilege of knowing him well. He was one of those men whose virile intelligence, persistent industry, and deep-seated humanity have done much to elevate the tone of the profession in this country, and to widen the sphere of its influence.

G. H. M.

Miscellany.

CONTAMINATION OF LAKE WATERS.

IN last week's issue of the JOURNAL we published an editorial commenting on the contamination of lake waters and the consequent risk of disseminating typhoid and other enteric diseases by the use of such waters for drinking purposes. In anticipation of action by the United States Public Health Service, the Erie railroad lake lines have issued the following regulations governing the water supply aboard their ships and its protection:—

"The health of the ship's company is fully as important as the safety of the ship and its cargo, and the supervision of the water supply will be

the care of the master exclusively and cannot be delegated by him to any one.

"Isolated sources of supply and methods of distribution have been, or will be, provided, and under no circumstances will the tanks be filled from or through any other. The sea cock will be kept locked and the key be in the possession of the master.

"When water is to be taken, the master will give, or send, the key to the engineer on duty, who will personally see that the sea connection is thoroughly boiled out by means of the steam connection provided for the purpose for at least five minutes before opening the sea cock. The engineer will also personally close and lock the sea cock and return the key to the master.

"Water tanks are to be thoroughly cleaned and scrubbed out with a strong caustic solution at least one in each month and the solution drained and flushed away through the distribution service.

"Except in case of fire, buckets or other vessels are not to be dipped into tanks, and every effort is to be made to keep them free from contamination.

"In taking water, masters will exercise due caution with regard to ships ahead and haul courses, if necessary, to clear their wake.

"Drinking cups or vessels used in common should be thoroughly boiled at frequent intervals or discarded, and the use of water buckets as containers for drinking water should be discouraged, as far as possible. When used in fire holds, they should be boiled out frequently with the steam hose.

"Natural ice is not to be taken aboard under any circumstances unless artificial is unobtainable, and then only when its source is clearly known and satisfactory, and in quantity only sufficient for immediate needs. Ice boxes should be thoroughly scrubbed out after any such supply of doubtful quality."

SCHOOL FOR HEALTH OFFICERS.

HARVARD UNIVERSITY AND MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

A SERIES of afternoon lectures at the Harvard Medical School from 5 to 6 p.m. Undergraduates and instructors of the Harvard Medical School and of the Massachusetts Institute of Technology may obtain free cards of admission to the entire course by applying to the Director, Dr. M. J. Rosenau Harvard Medical School.

1. *School Hygiene*—Dr. T. F. Harrington, Director of Hygiene in the Boston Public Schools. Three lectures, February 10, 17 and 25, supplemented by practical exercises.
2. *Hygiene in the Tropics*—Dr. Richard P. Strong, Professor of Tropical Medicine, Harvard Medical School. Six Lectures, April 7, 28 and May 5, 12, 19 and 26.
3. *Sanitary Law—Legal Powers of Health Officers*—Prof. Eugene Wambaugh, Professor of Law, Harvard Law School. Six exercises, April 1, 6, 8, 13, 27 and 29.
4. *Infant Mortality*—Dr. John L. Morse, Associate Professor of Pediatrics, Harvard Medical School. Three lectures, March 29, April 5 and 12.
5. *Ocular Hygiene.*—Dr. F. H. Verhoeff, Instructor in Ophthalmic Pathology, Harvard Medical School. Two lectures, March 15 and 16.
   Illumination—Dr. Louis Bell, Electrical Engineer. One lecture, March 17.
6. *Oral Prophylaxis*—Dr. W. H. Potter, Professor of Operative Dentistry, Harvard Dental School. Three lectures, May 6, 13 and 20.
7. *Personal Hygiene*—Dr. W. B. Cannon, Professor of Physiology, Harvard Medical School. Six lectures, February 9, Exercise; February 12, Fatigue; February 16, Rest; February 19, Bathing; February 23, Clothing; February 26, Diet.
8. *Medical Inspection of Immigrants*—Dr. M. V. Safford, U. S. Public Health Service, Medical Inspector of Immigrants, Boston. Two lectures, March 19 and 26, supplemented by practical exercise.
9. *Venereal Prophylaxis*—Dr. E. H. Nichols, Associate Professor of Surgery, Harvard Medical School. One lecture, Friday, April 30.
10. *Municipal Sanitation*—Dr. C. V. Chapin, Supt., Board of Health, Providence, R. I. Three lectures, April 26, May 3 and 10.
11. *Relation of Animal Diseases to Public Health*—Dr. Theobald Smith, Professor of Comparative Pathology, Harvard Medical School. Six lectures, March 1, 3, 5, 8, 10 and 12.
12. *Mental Hygiene*—Dr. E. E. Southard, Professor of Neuropathology, Harvard Medical School. Six exercises, February 18, 25, March 4, 11, 18 and 25. Given at the Psychopathic Hospital.
13. *Diet and Pellagra*—Dr. Joseph Goldberger, Surgeon U. S. Public Health Service, Washington. One lecture, April 2. (Cutter Lecture in Preventive Medicine—open free to press and public.)
14. *The Phenomena of Infection*—Dr. Victor C. Vaughan, Professor of Hygiene and Physiological Chemistry and Dean of the School of Medicine and Surgery, University of Michigan. Three lectures, April 14, 15 and 16. (Cutter Lectures in Preventive Medicine—open free to press and public.)
15. *Tuberculosis*—Dr. John B. Hawes, 2d, Secretary Board of Trustees, Massachusetts Hospital for Consumptives. Six lectures, February 1, 4, 5, 8, 11 and 15, supplemented by four practical exercises.
16. *Posture and Prevention of Deformities*—Dr. R. W. Lovett, Assistant Professor of Orthopedic Surgery, Harvard Medical School. Three lectures, March 22, 23 and 24.
17. *Social Service*—Dr. Richard Cabot, Assistant Professor of Clinical Medicine, Harvard Medical School. One lecture, March 9, supplemented by practical exercises under the supervision of Miss Ida Cannon at the Social Service Department of the Massachusetts General Hospital.

Correspondence.

EARLY PICTURES OF ACROMEGALY.

BOSTON, January 11, 1915.

Mr. Editor: In the *Lancet* for December 19, in an article entitled "A Case of Acromegaly 200 Years Ago," Dr. Leonard Mark calls attention to the paintings of Richard Dickinson, who lived at Scarborough, England, 1670-1738. There are seven original paintings by different artists, one by Virtue in 1725, showing a typical acromegalic facies. Mark speaks of this being one of the earliest representations of a rare disease, only recognized of late years, and states that, to his knowledge, it is the earliest picture of an acromegalic to be found in England. He speaks of two other representations to be found on the continent at an earlier date; one, the portrait of a giant at the court of the Elector of the Palatinate, Frederick II, which was painted in 1553; another is the carved figure of a woman, about the 13th century, which is or was on a flying buttress of Rheims Cathedral. There is little hope of its being still extant. In connection with this subject, an exhibition of miniatures at the Boston Public Library from the Grimani Breviary is of interest. This breviary contained nearly 2000 pages and was the masterpiece of the Flemish miniature paintings. It dates from the 15th century. Some of the paintings are thought to be by Hans Memling. No. 1571 is the picture that interests us in this connection. It is of St. Catherine disputing with the doctors (3d century). Without doubt, contemporary Flemish faces (15th century) were the models. This picture is by an unknown artist. In the group around St. Catherine are two figures which stand out unquestionably as typical acromegalics, the immense prognathous jaw, and large face in one figure being particularly interesting. One of the lower figures had also typical facial characteristics. In the other fifteen pictures, some of sacred subjects, some of profane, there is no hint of an acromegalic face, though the broad features of the Flemish type are faithfully portrayed.

Very truly yours,

WM. PEARCE COUES, M.D.

BELGIAN PHYSICIANS' RELIEF FUND.

In his stirring appeal for aid for the Belgian physicians, Professor Charles Jacobs of Brussels states that 1000 doctors are poverty-stricken, and that 2000 to 3500 doctors are suffering cruelly through this war.

That 2000 physicians need to be supplied the necessities of life would seem a low estimate. It seems probable that the physicians' families will average four members. That means 8000 members of physicians' families are dependent upon outside contributions. $4.40 will supply sufficient food to sustain life for four for one month. Belgian physicians and their families therefore, absolutely need at least $8800 worth of food every month.

For the first month, contributions of American physicians aggregated $1414. Will the medical profession of America accept its opportunity and meet its share of this responsibility by prompt and repeated contributions?

Every cent of every dollar contributed will be available for the purchase of supplies as the carrying charges are provided for by the American Commission for Relief in Belgium.

The first one thousand dollars contributed have been expended by the Executive Committee for food and supplies, and the packages properly labeled have been started for their destination.

By order of the Executive Committee.

HOWARD C. TAYLOR, M.D., *Secretary.*
F. F. SIMPSON, M.D., *Treasurer.*

REPORT OF THE TREASURER OF THE COMMITTEE OF AMERICAN PHYSICIANS FOR THE AID OF THE BELGIAN PROFESSION.

FULL LIST OF NAMES OF ALL CONTRIBUTORS UP TO AND INCLUDING JANUARY 16, 1915.

CONTRIBUTIONS:

Union Trust Company, Pittsburg, Pa. Banking Facilities	
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Dr. Frederick Abbe, Boston, Mass.	10.00
Dr. J. Riddle Goffe, New York, N. Y.	25.00
Dr. Henry F. Graham, Brooklyn, N. Y.	5.00
Total	$1414.00

Expenditures, 450 boxes of food purchased from Austin Nichols & Co., @ $2.20 per box	990.00
Balance	$424.00

HOWARD C. TAYLOR, *Secretary.*
F. F. SIMPSON, *Treasurer.*
By order of the Executive Committee.

THE CUTTER LECTURES.

The Cutter Lectures in Preventive Medicine for the year 1915 will be given at the Harvard Medical School by Dr. Victor C. Vaughan, Professor of Hygiene and Physiological Chemistry and Dean of the School of Medicine and Surgery of the University of Michigan, and Dr. Joseph Goldberger, Surgeon, United States Public Health Service, Washington, D. C.

Dr. Vaughan will lecture on "The Phenomena of Infection" on April 14, 15 and 16.

Dr. Goldberger's subject will be "Diet and Pellagra" and will be given in one lecture on April 2.

These lectures are given annually under the terms of a bequest from John Clarence Cutter, whose will provided that the lectures so given should be styled the Cutter Lectures on Preventive Medicine, and that they should be delivered in Boston, and be free to the medical profession and the press. Others interested are cordially invited.

ROGER PIERCE,
University 5, Cambridge.

APPOINTMENTS.

UNIVERSITY OF OREGON.—*Dr. Howard D. Huskins*, of Western Reserve University, has been appointed professor of biochemistry in the medical department.

NOTICES.

Physicians visiting the city will be cordially welcomed at the following clinics on the days and hours specified.

BOSTON CITY HOSPITAL.—After January 1, 1915, public operations will be performed in the Surgical Amphitheatre each week, on Thursdays, Fridays and Saturdays, at 10 o'clock.

Thursday: First Surgical Service. Dr. Blake.
Friday. Third Surgical Service. Dr. Nichols, and Fouth Surgical (G-U) Service, Dr. Thorndike.
Saturday: Second Surgical Service. Dr. Lund.

Notice of these operations will be sent to anyone expressing his desire to receive it.

CARNEY HOSPITAL.—Dr. Bottomley and Dr. Mahoney will hold an operative surgical clinic every Wednesday at 9. A.M., and at the same hour on the same day Dr. W. R. MacAusland will hold an orthopedic clinic. All physicians are welcome to attend.

MASSACHUSETTS GENERAL HOSPITAL.—1. A surgical clinic Tuesday, at 12, in the out-patient amphitheatre. 2. Operations in the Bigelow amphitheatre Saturdays from 10 to 1. 3. Operations in the Surgical Building except Sunday, from 9 to 1. 4 Daily surgical ward visits at which visiting physicians will be welcome. 5. Clinic in medicine and pathology Tuesdays at 12, by Drs. R. C. and H. Cabot and O. Richardson. 6. Medical clinic Thursday at 12, by Dr. D. L. Edsall.

PETER BENT BRIGHAM HOSPITAL.—Physicians visiting the city will always be cordially welcomed at the Peter Bent Brigham Hospital.

The medical visit takes place regularly every morning beginning at 10 o'clock.

Operations are usually going on throughout the forenoon in the surgical amphitheatre.

The surgical clinic is held in the clinical amphitheatre on Wednesdays at 12.30 P.M.

The medical clinic is held in the clinical amphitheatre on Mondays at 12.30 P.M.

The clinico-pathological demonstration is held in the clinical amphitheatre on Fridays at 3.30 P.M.

SOCIETY NOTICES.

NEW ENGLAND PEDIATRIC SOCIETY.—The thirty-fifth meeting of the New England Pediatric Society will be held in the Boston Medical Library Friday, January 29, 1915, at 8.15 P.M.

The following papers will be read:

1. "Acidosis in Children," Arthur A. Howard, M.D., Boston.
2. "Parenteral Immunization in Conditions of Proteid Sensitization," J. L. Goodale, M.D., Boston.
3. "Weaning—Its Relation to Anaphylaxis as Shown by Differential Blood Counts," H. C. Berger, M.D., Boston.

Light refreshments will be served after the meeting.

E. M. BUCKINGHAM, M.D., *Pres.*
R. M. SMITH, M.D., *Sec'y.*

NORFOLK SOUTH DISTRICT MEDICAL SOCIETY.—Stated meeting at United States Hotel, Boston, Thursday, February 4, 1915, at 11.30 A.M.

Reader: Edwin A. Locke, M.D., of Boston, for George M. Sheahan, M.D., of Quincy, Mass.

Subject: "Some Considerations in the Medical Treatment of Multiple Arthritis."

F. H. MERRIAM, M.D., *Secretary,*
South Braintree, Mass.

MASSACHUSETTS MEDICO-LEGAL SOCIETY.—The Spring meeting will be held in Sprague Hall, Medical Library, Boston, on Wednesday, February 3, 1915, at 2 o'clock.

The following papers will be read and discussed:

1. "Observations on the Mentality of Certain Criminals," Edward B. Lane, M.D., of Boston.
2. "A Case of Death from Double Pneumo-Thorax," George L. West, M.D., Medical Examiner, of Newton.
3. "Accidental Death from a Stray Shot from Unusual Distance," Charles W. Milliken, M.D., Medical Examiner, of Barnstable.

OLIVER H. HOWE, M.D.,
Recording Secretary.

RECENT DEATHS.

DR. SAMUEL AUGUSTUS FISK, who died on Jan. 18 in Boston, was born on Feb. 9, 1856. He received the degree of A.B. from Yale in 1877 and that of M.D. from Harvard in 1880. From 1884 to 1899 he was a professor in the medical school of Denver University. In 1900 he returned to Boston, and in 1905 settled at Brimfield, Mass. He was a member of the Association of American Physicians, the American Climatological Association, and the National Association for Study and Prevention of Tuberculosis. He is survived by his widow.

BOOKS AND PAMPHLETS RECEIVED.

Public Health Laboratory Work, by Henry R. Kenwood, M.B. Paul B. Hoeber, 1914.

The Science and Practice of Dental Surgery. Edited by Norman G. Bennett, M.A. William Wood & Co., 1914.

Gonorrhea and Its Complications in the Male and Female, by David Watson, M.B. Paul B. Hoeber, 1914.